TECHNOLOGY DEPT.

First Copy

A National Newspaper for Every Branch of the Industry

Automotive Daily News

CARS · SHOP EQUIPMENT · TRUCKS · AVIATION · PARTS · ACCESSORIES · TIRES

Vol. 13. No. 1733 — Entered as second-class matter Aug. 27, 1925, Post Office, N. Y., N. Y., Under Act of March 3, 1879. — NEW YORK, FRIDAY, MAY 20, 1932 — 5 Cents. $12 Per Year.

Proposal to Boost Freight Rates 28% on Automobile Parts Is Fought by N.A.C.C.

Vigorous Opposition Voiced to Suggested Increase In Eastern Territory to Obtain Uniformity For Western Section

New York, May 19.—Opposition to the proposal for increasing freight charges on automobile engines, axles, gears and a long list of other motor parts, now rated as fifth class freight in the official territory east of the Mississippi River, has been registered by the traffic committee of the National Automobile Chamber of Commerce at a hearing of the railroads' classification committee in Chacigo.

The changes, if enacted, would increase present freight charges an average of 28 per cent., according to an exhibit submitted by the committee, through basing them on 45 per cent. of first class rates instead of 35 per cent.

The classification committee will make its report to the rail traffic executives, and it is not unlikely the case will reach the Interstate Commerce Commission for final determination. The chamber will participate in all hearings.

"In establishing through class rates that apply on these articles from Eastern to Western territory," said J. S. Marvin of the National Automobile Chamber of Commerce, "the Interstate Commerce Commission applied the Western basis or 45 per cent. of first class. It is the contention of the industry that the Eastern basis, 35 per cent. of first class, should apply.

"Certain Western jobbing interests complained that they are at a disadvantage in using 45 per cent. while similar articles are rated 35 per cent. within Eastern territory. The commission has indicated that the railroads should be able

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THREE NEW MODELS OF 6-WHEEL TRUCKS BY DODGE BROTHERS

Detroit, May 19.—Dodge Brothers Corporation, division of Chrysler Motors, today announced the production of three new models of six-wheel trucks, supplementing standard line models in the one and one-half and two-ton capacity ranges.

The new six-wheel models, UGS-50 and GS-50, have payload capacities of from 1½ to 3 tons. The four-cylinder chassis in this capacity is priced at $875 f. o. b. factory and the six-cylinder six-wheel chassis at $935. The new model, GS-55, is rated $1,260, and with stake body it is listed at $1,505 f. o. b. Detroit.

These new six-wheel models were developed for the use, under certain conditions, of truck operators whose customary loads are heavier than the standard line Dodge 1½ or 2-ton models could be reasonably expected to carry, factory officials explain.

The mean wheel base of the six-wheel models in the 1½ to 3-ton capacity range is 153 inches. In general specifications and dimensions these trucks are the same as the standard line Dodge 1½-ton trucks with the following exceptions:

Frames are of heavier construction at the rear, with bumper supports over trailing axle; fuel tank of 15¼ gallons capacity is mounted outside of frame on right side;

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NEW S. P. A. R. SALES UNIT NAMES GRAHAM AS VICE-PRESIDENT

GEORGE M. GRAHAM

New York, May 19.—George M. Graham, vice-president in charge of sales of the Rockne Motors Corporation, has been named vice-

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2 NEW JOBBER GROUPS ORGANIZED IN SOUTH; M. E. W. A. AFFILIATES

Chicago, May 19.—Further strengthening of jobber interests on a nation-wide basis was made known at headquarters of the Motor and Equipment Wholesalers Association, through announcement today by B. W. Ruark, general manager of the organization of two new regional groups, the Virginia-Carolinas Automotive Wholesalers Association and the Southeastern Automotive Wholesalers Association.

Officers of the Virginia-Carolinas group, organized at Greensboro, N. C., are: President, Tom Glasgow, head of Glasgow-Stewart Company, Charlotte, N. C.; vice-president, O. B. Barker, Barker-Jennings Hardware Company, Lynchburg, Va., and secretary-treasurer, W. P. Butt, Chesapeake Auto Supply Company, Norfolk, Va. This group, it is stated, is one of three which the Southern Jobbers Association has authorized to be created in the area formerly covered entirely by that association.

At the organization meeting of the newly formed Southeastern Auto-

(Continued on Page 6)

16 States Report Higher April Commercial Car Registration

Total in 27 States Reaches 8,167, a Drop of 598 From March, With 11 States Offsetting Gains in Other Areas

New York, May 19.—With almost two-thirds of the twenty-seven states which so far have reported on commercial car registrations for April showing a gain over March, the aggregate figure shows a decline of 598 units from the March total. In the twenty-seven states, or, to be exact, twenty-six states and the District of Columbia, which have so far reported the total for April was 8,167 units, as against 8,765 units in March.

Oddly enough, sixteen of the states reporting showed an increase in sales in April over March, while the remaining eleven states contributed losses sufficient to offset the gains in the larger number of states and actually to bring the total below that of the preceding month. Much of this decline may be attributed to the State of Missouri, where in March 1,352 units were registered, as against 107 units in April.

Sales of commercial cars in the same states in April, 1931, ran approximately 50 per cent. ahead of the sales in the same states during April this year, the comparative figures being 8,167 this year, against 16,890 last year. The decline in the Statae of Missouri this year, which was largely responsible for wiping out the gains in other states during April over March, also appeared in the registration in that state last year. Missouri registrations in

(Continued on Page 2)

ORDERS FOR MACHINE TOOLS SHOW INCREASE FOR MONTH OF APRIL

New York, May 19.—Machine tool orders gained in April for the first time since December, according to National Machine Tool Builders' Association. The index figure on sales in April is 41.1 against 32.6 in March, 37.6 in February, and 59.1 in January, says Iron Age.

Last year the index figure on sales declined every month beginning with April until November, when there was a slight rise followed by a further moderate gain in December, since when the trend has been downward up to last month.

A surprising development is that seven companies reported to the association that their April orders were equal to or larger than their individual base figures, which represent the average of shipments in 1922, 1923 and 1924.

Shipments in April were at about

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FEDERAL TRUCK EXTENDS SALES DRIVE TO CANADA

Detroit, May 19.—So successful was the unique demonstration carried on in the states by the Federal Motor Truck Company of this city that the campaign has been taken into Canada. A series of meetings started in Hamilton Tuesday night, followed by another at Toronto last night, while tonight the Federal forces appear in Ottawa, winding up at Montreal tomorrow night.

The invaders include William Rayburn, Federal's manager of national sales; George Ingersoll, chief engineer, and Louis J. Kanitz, sales manager of Continental Motors.

This is one of the most unusual campaigns ever put on by a truck company, and advices from the front

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CONGRESSMAN BRAND PROTESTS PROPOSED REGULATION OF TRUCKS

New York, May 19.—A protest against the proposed regulation of motor trucks and a challenge to the statement that trucks at the present do not have to pay for their right of way is voiced in a letter by Congressman Charles Brand of Ohio in a letter to W. W. Atterbury, president of the Pennsylvania Railroad.

Mr. Brand in his letter states:

"Your idea is to put the buses, trucks and water craft under regulation for a purpose that does not seem clear to me, for your disclaim any idea of raising the rates of these means of transportation as a result of regulation. I am unable to see the value of this regulation to you unless by this means you get rid of

(Continuued on Page 8)

PARKER NAMED HEAD REO TRUCK DIVISION

CARL PARKER

Lansing, Mich., May 19.—Announcement of the appointment of Carl Parker as head of the truck division of the Reo Motor Car Company is announced today by the Reo

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HAY ANNOUNCES TWO STATE APPOINTMENTS FOR USED CAR REPORT

Chicago, May 19.—Upon his return from Detroit, where he attended the used car appraisal meeting under auspices of the Detroit Automobile Dealers Association, Thomas J. Hay, president of the National Used Car Market Report, Inc., today announced the appointment of Glenn G. Morrison of that city as state representative for Michigan. Mr. Hay also made known the appointment of Frank T. Day of Indianapolis as representative for the entire state of Indiana with the exception of a few counties in the northwest section.

During many years in the trade Mr. Day has been a distributor of automobiles in Indianapolis and is well known among motor car merchants throughout the state.

Appraisal meetings attended by used car managers of dealer, distributor and branch establishments representing virtually every make of automobile, are announced by Mr. Hay in anticipation of the appearance of the seventy-second editions of the Blue Book and Red Book

(Continued on Page 2)

SPECIFICATIONS GIVEN OF REO'S NEW 1½-TON SPEEDWAGON MODEL

Lansing, Mich., May 19.—The engineering specifications and the mechanical details of its new 1½-ton Speedwagon are announced today by the Reo Motor Car Company. It has a loading space of 102 inches behind the cab on the 140-inch wheel base models and 126 inches on the 164-inch.

The truck is offered at a base price of $745 with the Gold Crown engine, formerly available only in 2, 2½ and 3 ton Reo trucks, sold at higher prices. This engine develops 68 brake horse power at 2,800 r.p.m., and develops in excess of 152-foot pounds torque through the range of speed of 1,000 to 2,000 r.p.m.

The crank shaft is 2⅛ inches in diameter. The main bearings are of the close limit, interchangeable type, fitted without shims, and providing a total length of 12 inches with a babbitted surface of 87.12 square inches. Protection of these bearings, as well as the connecting rod bearings and camshaft bearings, is assured not only by their liberal dimensions, but also by a special safety feature of the Reo engine oiling system. The oil, from the time it leaves the submerged gear type oil pump, passes entirely through drilled or cored passages to the crankshaft, connecting rod and camshaft bearings, there being no internal oil pipes which under severe service might loosen or break.

The Gold Crown engine is fitted with a down-draft carburetor fed by a fuel pump of liberal capacity.

Transmission and axles, like the Gold Crown engine, are Reo-built

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HAY ANNOUNCES TWO STATE APPOINTMENTS FOR USED CAR REPORT

(Continued from Page 1)

published by the National Used Car Market Report. Sessions were held Wednesday for the first time in Nashville, Tenn., with S. F. D. Meffley, sales manager of the organization, in charge, and at St. Paul, Minn., where C. M. Johnson, in charge of the Minnesota and Wisconsin territory, conducted the meeting with the co-operation of St. Paul Automobile Dealers, Inc.

"In all cities where appraisal meetings are being held, the attempt on our part to get a more comprehensive listing of actual market conditions is appreciated by those in attendance," said Mr. Hay. "We find an excellent spirit of co-operation and a realization that the results arrived at are of unusual benefit to the automobile trade. Dealers and distributors everywhere tell us they intend to apply scientific methods in fixing used car appraisal figures, along with a definite program for the trade-in end of their business.

"The appointments of Messrs. Morrison and Day as state representatives in Michigan and Indiana, respectively, leave only two sections of the country still uncovered. Negotiations are under way to give us complete national coverage through local representatives, and we expect to make an annuoncement shortly regarding the two sections of the country in question."

Mr. Hay added that an analysis of subscribers just made reveals that the National Used Car Market Report, Inc., is operating to an increasing extent upon an international basis. He reports subscribers from many parts of the world, including Mexico, Japan, South America, Czecho-Slovakia and Germany, as well as Canada. Foreign interest in the organization's Blue Book is due, he states, to the larger number of American-built cars in service abroad.

"Just as in this country, American-built automobiles abroad are traded as used cars upon new ones," says Mr. Hay, "as a consequence, foreign dealers state they must have an idea of what such cars are worth. Although we have no foreign editions, or quotations on American cars abroad, the Blue Book is used just the same. For instance, if the new car price is 20 per cent. higher in a certain country than in the United States, the appraisal figure on the used car of that make is increased a corresponding percentage over the figure appearing in the American edition."

MOTOR PRODUCTION ACTIVITY

By RAY B. PRESCOTT,
Marketing Counselor

Production showed a glimmer of light last week over the previous week by an increase of 1 per cent. This brings it up to the same point it reached during the week of April 16. As yet the production schedules of the car manufacturers have not reflected any marked increase in buying from the strenuous sales efforts put out by a number of our leading manufacturers.

The dilatory, log-rolling tactics of Congress can be thanked for nullifying part, if not all, of the herculean efforts of the motor industry to give business an impetus forward.

The industry finished the week of May 14 with index figure at 55, as against 54 for the previous week and 74 for the same week a year ago.

16 STATES REPORT HIGHER APRIL SALES OF TRUCK UNITS

(Continued from Page 1)

March, 1931, totaled 1,595 as against 1,174 in April. Apparently the decline is not unusual and is due either to seasonal influences or licensing period changes.

Comparative figures in the respective states in April, as against March this year, are as follows:

State—	1932 April	1932 March
Arkansas	120	84
Delaware	65	56
Florida	150	260
Idaho	85	41
Illinois	781	780
Indiana	502	524
Maryland	265	256
Michigan	595	570
Minnesota	452	571
Missouri	701	1,352
Montana	121	201
Nebraska	256	212
New Hampshire	155	99
New Mexico	66	38
North Carolina	304	321
North Dakota	84	59
Oklahoma	243	161
Pennsylvania	1,427	1,453
Rhode Island	160	101
South Carolina	138	67
South Dakota	67	90
Utah	71	95
Virginia	336	334
Washington	218	211
West Virginia	232	147
Wisconsin	444	493
District of Columbia	129	169
Total	8,167	8,765

PROPOSAL TO BOOST FREIGHT RATES 28% UPON PARTS FOUGHT

(Continued from Page 1)

to reconcile the classification differences.

"Facts submitted at the hearing show that 90.5 per cent. of the total automobile parts tonnage originates in Eastern territory, while 68.2 per cent. terminates there. On the other hand, only 7.6 per cent. originates in the West. Based on these data, taken from Interstate Commerce Commission records, it is contended that rates in the East, where the bulk of the traffic moves, cannot reasonably be advanced to attain the desired classification uniformity. Furthermore, these materials are not involved in any discriminations such as cited by the jobbing interests."

Included on the committee representing the industry were J. H. Myler, Chrysler; F. A. Allen, Hudson; R. R. Shultz, White; E. F. Stewart, Chevrolet; E. A. Churchill, Ford-Lincoln; H. A. Milling, International Harvester; V. Laird, Auburn; K. A. Moore, National Automobile Chamber of Commerce.

The arguments were also supported by representatives of a dozen parts makers.

FINANCIAL NEWS

WILLYS-OVERLAND

Toledo, May 19.—Willys-Overland Company and subsidiaries—Quarter ended March 31: Net loss after taxes, depreciation, interest and other charges, $1,032,395, contrasted with net profit of $117,106, equivalent to 88 cents a share on 133,017 7 per cent. preferred shares, in first quarter last year.

RAYBESTOS-MANHATTAN

Bridgeport, Conn., May 19.—Raybestos-Manhattan, Inc. — Quarter ended March 31: Net loss after taxes, depreciation and other charges, $10,872, against net profit after Federal taxes of $241,203, equal to 35 cents a share on 670,012 no-par capital shares, in first quarter off 1931.

ANACONDA WIRE

New York, May 19.—Anaconda Wire and Cable Company—Quarter ended March 31: Net loss after depreciation, taxes and other charges, $236,446, contrasted with net profit of $161,465, equivalent to 38 cents a share on 422,470 no-par capital shares in first quarter of 1931.

SPARKS from DETROIT

Six-Wheelers
* * *
Alphabetical Soup
* * *
Greg Flynn Recalls
* * *
Wanted a Name
* * *
News!
* * *

Chris Sinsabaugh—Detroit Editor

THIS being A. D. N.'s big truck issue, it is not out of place to comment on the increasing popularity of the six-wheeler. I had my eyes opened on this point when I dropped in on the Federal Motor Truck Company officials the other day, and learned that at the present time from 20 to 25 per cent. of the production is of that type, and this after less than three years Federal has been building six-wheelers. It might be mentioned, too, that Martin Pulcher claims the honor of pioneering them.

* * *

THE COMPANY has great faith in the six-wheeler, and they tell me it saves the purchaser money, not only on first cost, but operating cost and maintenance cost as well. The factory folk offer figures to prove that the three-tonner, comparing it with the average three-tonner in the four-wheel class, saves 65 per cent. in initial cost, based on the average cost of the ten leading three-ton trucks in the four-wheel division.

Preferential taxes are lower, they say, and also insurance, while it is asserted that gasoline and oil consumption has shown a saving as high as 36 per cent. in many cases; that ten to twelve miles a gallon on gasoline, with a three-ton load, has been reported by many operators.

As having a bearing on this, I am told of a recent test. Two trucks of the same capacity and with the same load, were operated side by side, and their clutches thrown out at thirty-five miles an hour. The four-wheeler is said to have coasted .5 mile and the six-wheeler .8 mile.

* * *

IT LOOKS like alphabet soup in the automobile industry these days. There's B. O. P., meaning the Buick, Oldsmobile and Pontiac set-up, and now we have S. P. A. R., slang for the combination of the three Studebaker units, not to forget A. A. A., S. A. E., N. S. P. A., M. & E. A. and others of a similar character. Soon the up-to-date automobile writer will have to carry a glossary when he starts to grind out his column.

* * *

"I READ WHAT the column had to say about E. V. Rippingille, the new chairman of the Detroit section of the S. A. E., and how he started his career in this country with the Bristol Engineering Company, which built the Allen-Kingston car," writes Gregory Flynn, an old friend of Rip's, and also of the column conductor.

"Don't you remember, Allen-Kingston had a car in the Briarcliff road race, back in '07 or '08, and the driver was a chap named Campbell, who had a mechanic named De Palma? A couple of days before the race Campbell put the car in a ditch and broke his arm. So the morning of the race they decided to let the 'wop' mechanic drive, and that was De Palma's maiden race. Nobody trusted him much, so Rippingille rode as a mechanic, and he told me afterward he pulled the switch to keep De Palma from hitting a wall too hard. I think they didn't finish."

* * *

I'M BOOKED for a luncheon argument with J. C. Zimmerman of the manufacturers' sales department of the Detroit office of Goodyear, who doesn't fancy the classifying of the new low-pressure tires as doughnuts. What's a writer to do? Each and every tire company has a different name for the low-pressure, and, of course, when discussing the type in general, it is impossible to call it by a trade name.

Goodyear calls it an air wheel, which seems most descriptive, because the new type is more of a wheel than a tire. Goodyear claims pioneership dating back to 1929, when aviation took up the low-pressure. Buses used Goodyear air wheels in 1929, and two years later they were fitted to tractors. Test cars were thus equipped in 1930.

* * *

WHEN A GREAT METROPOLITAN DAILY like the New York Sun prints it, it must be news, which refers to Bob Mountsier's comment in the aforesaid New York Sun that my 25-year-old record of never having been asked to buy an automobile has been broken through the solicitation of this writer by Dean Sellers, a Chevrolet salesman.

MORE MILEAGE · BETTER SERVICE · LONGER LIFE
"NORMA-HOFFMANN"
PRECISION BEARINGS
BALL, ROLLER AND THRUST
NORMA-HOFFMANN BEARINGS CORPORATION, STAMFORD, CONN. U.S.A.

4,000,000 MILES OF PROOF
THAT ETHYL PAYS ITS WAY

Hunter Clarkson, Inc., operate White Trucks and Coaches, Reo Trucks, General Motors Trucks and Coaches, Ford Cars and Trucks, and Cadillac, Lincoln, La Salle, Buick and Pontiac passenger cars. Read what their cost sheets show about Ethyl Gasoline!

"AFTER four years and over four million miles of experience at altitudes varying from two hundred and fifty feet below sea level in Death Valley to eleven thousand feet above sea level over Wolf Creek Pass, we find that Ethyl Gasoline *invariably pays its way.*"

* * *

The most surprising thing about this statement is that it is NOT unusual! Fleet operators all over the country are finding that it is cheaper to buy fuel in terms of ton miles. The Ethyl fluid in Ethyl Gasoline helps you get more of the POWER out of each gallon, and it's POWER you want when you buy motor fuel.

Ethyl Gasoline gives easier, more rapid hill climbing and acceleration. It makes for faster deliveries without speeding on down grade to make up lost time. And by keeping your trucks out of the lower gears as much as posible, Ethyl cuts down engine revolutions. Engines that are using a higher gear don't turn over so many times per mile—don't use as much fuel. Also, Ethyl saves on maintenance. You have less frequent carbon removals and engine overhauls.

How you can profit by Mr. Clarkson's experience

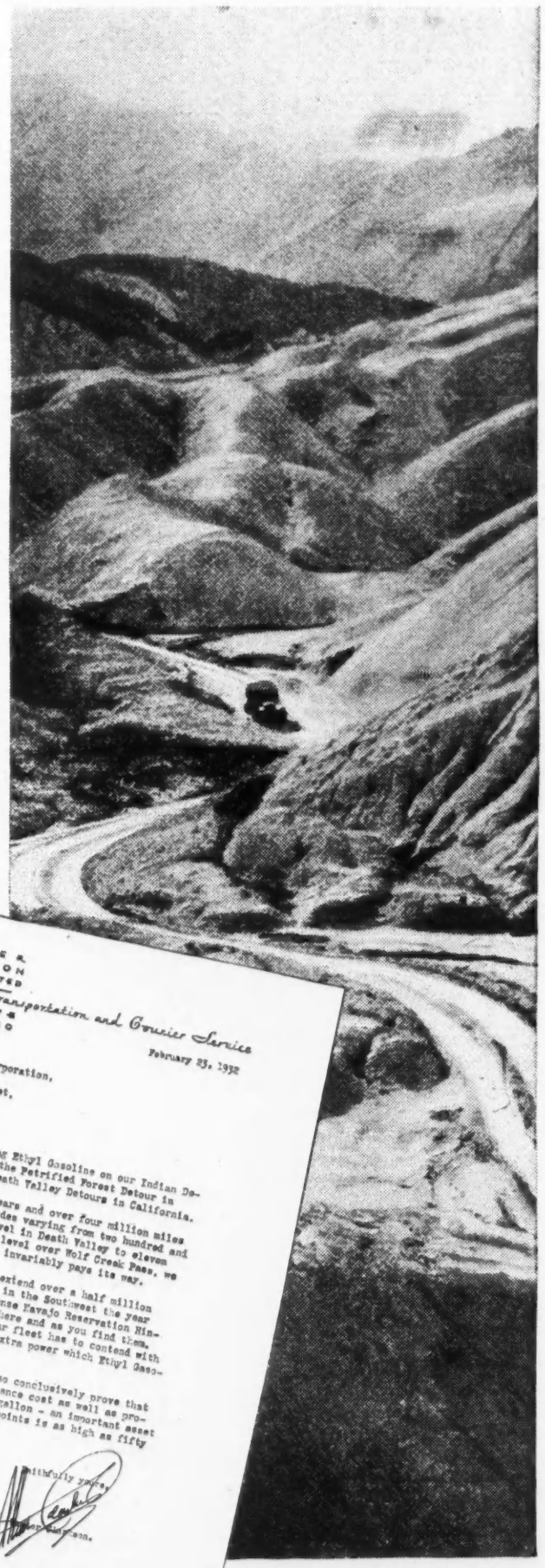
Your trucks may never leave the paved highways, or they may be forced to plow through soft, loose roads. But fleet operators with *every* type of route have proved that Ethyl Gasoline costs less per ton mile. You can have this economy, too. Give Ethyl Gasoline a trial!

But keep this in mind: You won't find the full saving of Ethyl by using it in *one* truck. A complete test in your entire fleet is the only way to give lower maintenance costs a chance to show up on your costs sheets. Try Ethyl Gasoline this way, and *watch your costs go down!* Ethyl Gasoline Corporation, New York City.

ETHYL GASOLINE CORPORATION — Controls Combustion

GOOD GASOLINE + ETHYL FLUID = ETHYL GASOLINE

Ethyl fluid contains lead. © E. G. C. 1932



LETTER *from Mr. R. Hunter Clarkson of Hunter Clarkson, Inc., Santa Fe, New Mexico. There's a real economy tip in it for you.*

HUNTER CLARKSON INCORPORATED
Motor Transportation and Courier Service
SANTA FE NEW MEXICO

February 23, 1932

Ethyl Gasoline Corporation,
Chrysler Building,
135 East 42nd Street,
New York City.

Gentlemen:

We are using Ethyl Gasoline on our Indian Detours in New Mexico, the Petrified Forest Detour in Arizona, and on the Death Valley Detours in California.

After four years and over four million miles of experience at altitudes varying from two hundred and fifty feet below sea level in Death Valley to eleven thousand feet above sea level over Wolf Creek Pass, we find that Ethyl Gasoline invariably pays its way.

Our operations extend over a half million square miles of territory in the Southwest the year around, including the immense Navajo Reservation Hinterland, where roads are where and as you find them. Of necessity, therefore, our fleet has to contend with conditions which make the extra power which Ethyl Gasoline provides imperative.

Our cost sheets also conclusively prove that Ethyl Gasoline lowers maintenance cost as well as providing increased mileage per gallon - an important asset when gasoline cost at remote points is as high as fifty cents per gallon.

Faithfully yours,

Indian-Detours Couriercar Motor Courier

FROM DEATH VALLEY TO WOLF CREEK PASS, *Couriercar limousines of HUNTER CLARKSON, INC., are fueled with Ethyl Gasoline. Above: on road to San Francisco Peaks, Arizona.*

ROADS THAT CALL FOR POWER *and more power. Ethyl Gasoline gets your trucks through faster—keeps them in higher gear —with greater comfort to passengers and economy to you.*

Save money with

ETHYL GASOLINE

Retail Salesmen—This Is Your Page

How Associations Can Boost Business by Newspaper Ads

Three automotive groups in South Jersey are conducting an intensive newspaper advertising campaign to increase business in new and used cars and in service operations.

The Trenton Automobile Trade Association proclaiming that "Cheap labor is expensive when it comes to automobile repairs" continues:

"The amateur mechanic may sound convincing as he describes the techincal difficulties of the job (and offers to do it at a lower price) but a much more convincing demonstration is afforded by the way your car runs a few weeks later.

"Even the expert mechanic is a marvel indeed if he knows as much about your car as the dealer who makes a business of selling and servicing that particular make.

"Not only is your dealer familiar with your car—he employs specialists who bring expert knowledge to bear on each individual problem—ignition, battery, engine, whatever it may be.

"And finally, the dealer has the experience and help of the manufacturer behind him, whose vast fund of knowledge concerning your car is always at the dealer's command.

When you need expert repair service the best advice we can offer you is go to the dealer who sells your make of car."

The Independent Supply Dealers of Monmouth County, thanked the public for its response to specials offered weekly and listed three new specials for the week of May 16.

The dealers co-operating are: William Eldridge, Neptune; George Ackerman, Keyport; O. S. Barkelew, Freehold; Bill's Tire Shop, Asbury Park; Empire Garage, Red Bank; James A. Desmond, Long Branch; J. G. Eschelback & Son, Red Bank; Hines Auto Supply, Asbury Park; G. & M. Service Station, Bradley Beach; Frank Henderson, Jr.'s Depot Garage, Long Branch; A. L. Huyler, Keyport; F. G. Jaudy, Red Bank; Walter Klepp, Keansburg; Lashek's Garage, Manasquan; William Major, Asbury Park; George W. Mathews, Farmingdale; J. R. Morris, Manasquan; George Mulholland, Freehold; Paul Nastasia, Long Branch; Naylor, Inc., Atlantic Highlands; Sol J. Neimark, Sea Bright; Quinn's Sport Shop, Freehold; Serrine & Green, Deal; Fred Van Dorn, Red Bank; C. H. Waters, Spring Lake; Thomas West, Englishtown; Walter Worles, Oakhurst.

The Camden County Garage Men's Association, of which Horace R. Dixon is president, has published a "Square Deal" pledge to car owners of South Jersey.

"We use standard new parts, modern equipment and skilled mechanics. We pledge a square deal to our patrons and make it impossible for you to be 'gypped'—by standing behind work done by any member of Camden County Garage Men's Association.

"The membership of the association is composed of repair men of established reputation who are in a position to take care of any repair job on your automobile that might come up.

"We all specialize in minor repair jobs and give you honest information.

"We have latest equipment to lubricatae or wash your car."

New car dealers in Camden dis-

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COST OF FREE PICK-UP AND DELIVERY FOUND SERVICE BUILDER

The cost of free pick-up and delivery service by the service department of the Glen E. Thomas Company, Studebaker dealer, Long Beach, Cal., has been more than justified by the results traceable to its use. Such have been the findings of Mr. Thomas after carefuly keeping cost figures on the innovation.

"We are getting from twenty to twenty-five jobs daily into the shop through the use of free pick-up and delivery," explained Mr. Thomas. "Most of them probably would not otherwise come in. Our total cost for this service totals about $170 a month. This includes depreciation of the motor cycle, operating expenses of the cycle and the wages of the driver."

Thomas' figures reveal that the average job brought into the shop in this manner grosses $5 for labor charges alone. Add parts charges to this average, and it is readily evident that the innovation is profitable. Cost of the service is about 45 cents per car brought in.

The particular pick-up motor cycle in use by Thomas is a regular motor cycle, equipped with two auxiliary wheels, which are let down when trailing behind a car, and a coupling bar that holds the motor cycle rigid in the rear of the automobile. By its use the services of an extra man are eliminated, a factor that formerly made free pick-up and delivery expensive, if not prohibitive.

Aside from the direct profit accruing to the shop through the use of this motor-cycle tow service, Thomas recognizes that increased volume in the shop is reflected in new car sales traceable to customers contacting the firm through the shop service first.

Firm Aids Salesmen With Slogan Contest

Des Moines, Ia., May 18.—The Sanders Motor Company, Inc., distributor of Dodge and Plymouth, 1440-48 Locust St., stepped up a sales campaign for its salesmen and attracted considerable interest to the firm in featuring a "business slogan" contest in which the cash outlay amounted to $90 and $475 in merchandise credit vouchers.

Prominent business men were named as judges, first prize amounting to $50 in gold and a $200 credit voucher. Event was prominently advertised as not being within regulations covering speculation and lottery.

The firm in featuring the slogan offered, "Be modern — drive a Dodge," as an example, stating that "it is a well-known fact that high-grade advertising is the life of business. In advvertising, short, catchy phrases and sentences, called slogans, are very valuable. We need them and will gladly pay for them, and are taking this method of getting a number of suggestions."

Response to an ad. containing a coupon brought an avalanche of replies to contesting headquarters.

RECEIVERS ADVERTISE DURANT PLANT SALE

Lansing, Mich., May 19.—Legal advertising for sale of the plant of the defunct branch of the Durant Company, located here, will run in New York, Chicago, Philadelphia, Cleveland, Cincinnati and Detroit within a few days, the Central Trust Company receivers, announced today.

One series of legal advertisements already has been published.

NEW SPECIALTY FIRM

Springfield, Mass., May 19.—Frank W. Lawler, who for a number of years has been connected with the service department of Springfield Cadillac, Inc., has opened a service station specializing in Cadillac and Lincoln motorcars, in Elmwood Street, this city.

This department is devoted to the interests of the retail sales division of the industry. Salesmen, this is your department. Automotive Daily News wants you to get something from this department that will help you in your work on the firing line. It wants you to pass on your own experiences, successes, failures to help your brother salesmen. Send in your story in the form of a letter, or even a postal card, and let us get it ready for publication. Your achievement or your mistake may help another salesman to make sales or avoid errors that cost you commissions.

Dealers read this page. Give us the benefit of your reactions on these problems that affect the work of your salesmen, the men on the firing line, the men who bring home the bacon or don't.

THREE TIPS FOR SALESMEN IN PHILADELPHIA A. T. A. CONTEST AWARDS

The open-road week committee of the Philadelphia Automobile Trade Association, handling the contest for prizes announced for that event, which occurred April 9 to 16, has made the following awards:

Article not to exceed 100 words to be contributed by the public on "Why the Public Should Buy New Cars Now." A prize of $50 cash to Albert W. Stellwag, 4684 North Sydenham St., Philadelphia.

The best "cold turkey approach" used in effecting a sale. Prize of $25 to Thomas E. Larsen of the Thornton-Fuller Automobile Company, Broad and Stiles Streets, Philadelphia.

Prize for best "sales closing argument" used; $25 to Charles A. Arnold of the Thornton-Fuller Automobile Company, Broad and Stiles Streets.

In each event for which prizes were offered some very interesting contributions were received, and the committee expresses its appreciation of the interest taken by contributors.

Mr. Stellwag's contribution is quoted herewith:

"Spring! The open roads beckon.

"Never in the history of America has the public been offered greater values than are prevalent in today's motor cars.

"Greater values, smoother riding, more comfort, superb appointments, with every known feature of safety, combine to make finer and safer cars for the American family to own and enjoy.

"Today's prices are the lowest in the history of the industry.

"Added to this is the easy, pleasant budget plan of purchase.

"Every car sold tends to lessen the present depression.

"For patriotic reasons, for economic reasons, truly, the public should buy cars now."

"COLD-TURKEY APPROACH"

Presented card at "information desk" for interview with Mr. Blank of Blank Company; card returned "was not interested."

Made inquiry as to who could be approached that would have some influence with Mr. Blank, and was told, in a joke, "his mother." Called on the mother, received interview and was satisfied I had sold her my car when she admitted she was sure she liked my car better than car her son was driving.

Returned to son's office, handed in my card again, with following written on same: "Your mother expressed a desire for our car; so will you when you know more about it."

Received interview, gave him demonstration, stopped at showroom, slected colors and closed deal within allotted time usually allowed for demonstrations.

T. E. LARSEN.

Thornton-Fuller Automobile Company, 1213 North Broad St., Philadelphia, Pa.

CLOSING SALES ARGUMENT

One of our salesmen came into my office at 10.30 o'clock on Tuesday evening, April 12, and said: "Mr. Arnold, I have a man here to whom I have been talking for about three hours. He has a 1928 model 62 Chrysler sedan to trade on a Plymouth four-door sedan, but he wants $400 and won't take any less. Will you talk to him?"

My answer was, "Bring him in."

My prospect sat down, and I said, "Mr. Prospect, I believe you are sold on our new car, aren't you?"

He answered, "Yes, I like it."

"Mr. Holterman has shown you that the new Plymouth is easily the best car you can get for the money, hasn't he?"

"Yes, but we cannot get together on the price of my car."

"Now, Mr. Prospect, before we talk about your car we want to know if we have left anything undone in the presentation of our car. Are you certain that our car is just what you want? Are you convinced that the Plymouth is the best buy you can make at the price?"

"Yes, I believe it is, but I'm not going to give my car away."

"No; and you are perfectly right, Mr. Prospect. We don't expect you to give your car away. If I can

(Continued on Page 10)

The New

SALES *and* SERVICE MANUAL *for 1932*

will be off the press in a few days!

Bigger than ever—and complete with a wonderful supply of new information, the *1932 Automotive Daily News Sales and Service Manual* will soon be ready to give you more help this year than it has ever given you before.

New passenger and commercial car registrations by months, makes and states for all of 1931, as well as comparative figures as far back as 1927. Detailed charts of passenger car equipment and accessories—major specifications and mechanical details of passenger and commercial car models! Also, a brand new chart showing the first twelve leading makes in the ranks of passenger and commercial car manufacturers by makes and months—and much more that you will find absolutely invaluable.

Not a day passes without hundreds of urgent calls from dealers all over the country—each one with the same question: "When will that new manual of yours be out?"

Well, here it is! And it's yours FREE with a year's subscription for *Automotive Daily News* at the regular subscription price of $12.00. Or if you prefer buying it alone, just inclose $2.50 with the coupon below.

But by all means, get your order in at once, because this new manual is being printed in a very limited edition, with positively no reprints!

FREE with your subscription for Automotive Daily News

AUTOMOTIVE DAILY NEWS,
350 Hudson Street, New York City

Kindly enter my subscription for one year of Automotive Daily News and send me absolutely free your new Sales and Service Manual for 1932. Inclosed find check for $12.00.

OR

Send me at once your new Sales and Service Manual for 1932 for which I inclose $2.50. (Check choice.)

NAME .....

ADDRESS .....

CITY .....

STATE .....

$2.50 alone

FLEET OWNER LISTS

OPERATORS HAVING	Number of Companies	No. of Listings	No. of men to see (Mailing pieces required)	No. of Automotive Vehicles	No. of Vehicles Per Contract
10 or more	16,000	18,000	25,000	1,500,000	60
100 or more	1,150	2,100	3,400	700,000	210
1,000 or more	75	600	1,000	300,000	300

LISTS THAT ARE KEPT UP TO DATE

Lists that show the Name of the Man to See and the total Number of Vehicles

Each Local list is zoned, routed, alphabetically indexed, and vocationally keyed

We can supply a local list for any Territory or a national list

FLEET OWNER LIST CO. **1817 B'WAY, N. Y. C.**

Production - - Engineering - - Factory

The Need for Co-ordinated Transportation

By J. F. WINCHESTER
Paper Read Before the New England Section, S. A. E.

Your interest in such an influential organization as the Society of Automotive Engineers indicates to me that you have a great interest in the subject of co-ordinated transportation. This type of transportation is what this country needs if we expect to transport our materials at the lowest possible cost, which is necessary if we expect to maintain the standards of living that we have heretofore enjoyed and be able to compete in the world's markets.

I call your particular attention to co-ordinated transportation because we, as automotive engineers, have established an enviable position in a short period of twenty-five years' time, and the position that we have established is of such an enviable character that today it is under the withering fire of other branches of transportation, such as the railroads, and if unheeded will result in great damage being done to the industries with which we are associated. In discussing this situation, it is true that many of us have our own selfish motives to satisfy.

In connection with the intention to throttle the motor industry and highway transportation, the railroads' main arguments are: First, that they hurt the railroad by diverting traffic from it; and, second, because they operate upon the highway for which they do not pay a fair share. My investigation and study lead me to believe that neither of these arguments is sound, yet we must not overlook certain fundamental facts, as it was only a few years ago when the railroads were in a very prosperous condition, and through the depression it makes it difficult to measure relatively the operation results of previous years. It is probably true that considerable business is being diverted from them, yet, on the other hand, they do 75 per cent. of the freight business and freight hauling done in this country.

One of the frequent arguments used is that the motor trucks and motor cars do not pay their way over state highways, but it has been found that history shows that by the year 1838, while the United States was a relatively small country, seven states, as follows, had borrowed more than $32,000,000 for railroad bonds: Maryland, $5,500,000; Pennsylvania, $4,964,484; Massachusetts, $4,290,000; New York, $3,787,200; Tennessee, $4,730,000; Alabama, $3,000,000, etc. Aside from this help we should not overlook the fact that valuable land grants for rights of way were also contributed. The Western Railroad of Massachusetts received a total of $4,000,000 from the state of Massachusetts, and the Richmond & Danville was granted special exemption from taxation from the state of Virginia. Besides granting exemption, sometimes legislation gave banking privileges, as in the case of the Georgia Railroad and Banking Corporation, or even lottery privileges out of which railroads expected to make a good profit.

It hardly seems logical that the public can stand idly by and see such a difference of opinion on such a subject and yet not wake up to the fact that something is wrong. Just what is wrong can be asked. This is best answered by J. R. Turney, vice-president of the St. Louis Southwestern Railway Lines, St. Louis, Mo. He states in part as follows: "The defeatist would concede that the motor truck offers a better mode of transportation than the railroad, and that the latter's only hope of salvation lies in persuading the people to tax or legislate their more efficient competitor out of existence. The demand is an echo of that heard when the cotton spindle met the spinning wheel, and, again, when the railroad challenged stage coach and steamboat. It is an attitude of cowardice which will fail in this generation, even as it failed in those. If and to the extent that the motor truck is a better or cheaper transportation instrumentality, it will and should supersede the train. Man has yet to refuse to accept a more efficient tool of his genius merely because it renders obsolete his present tools. Otherwise he would still be using stone hatchets. Such laws as are necessary to make the highways safe for public travel and to protect the highways against undue wear by limitations of size, speed, safety and types, together with special taxes for the use of the highways, will be demanded by the public in its own interest. Any attempt by the railroads to use this public sentiment as cover under which artificially to perpetuate obosolete facilities and practices will in time most severely react upon themselves.

"The voice of despair sings in the same choir with that of defeat. It urges that the trucks be shackled with the same red tape and regulation as the railroads are shackled. It views industrial progress in transportation as a game conducted solely in the interest of the players and, therefore, proposes to handicap the trucks, not because regulation is needed to protect the public in dealing with the trucks, but solely in order to equalize the competitive opportunities of the two kinds of carriers.

"Let us stop deluding ourselves that somehow, somewhere, somebody will solve this truck problem for us. When you discarded your toy fire engine and your tin soldiers you quit expecting visits from Santa Claus and his reindeer. To meet this situation the railroad must rely upon itself. If it is futile to ask that the red tape which is throttling our progress be removed, it is more than hopeless to expect Congress to rescue us by paternal legislation, or

(Continued on Page 11)

EARL BARTHOLOMEW ON FUEL PRODUCERS

Limits apparently have been reached in the extension of engine and hood space on an automobile, with the result that the motor car industry has had to turn to the fuel producers to increase the power of their vehicles, according to Earl Bartholomew, director of the Detroit engineering laboratory of the Ethyl Gasoline Corporation.

"Let almost any automobile owner imagine the hood of his car extended even six inches," said Mr. Bartholomew, "and he will immediately declare he would not have a car with such atrocious lines. But his complaint would be mild to that of the automobile designer.

"Yet, if the engine of an automobile is to be made more powerful by increasing its size, a larger space naturally must be provided on the chassis for its accommodation. It has to ride as a part of the vehicle. It cannot be housed separately beside the highway as is an electric power plant.

"That places the automotive engine builder in the 'corset stage' of his development. The body designer is applying the garment and insisting with the public that nothing must be permitted to look bulgy or to interfere with the freedom of the sweep of lines.

"Fortunately, the engine builder has been able to obtain relief through the fuel producer. By designing engines for the use exclusively of anti-knock fuels, he has increased their power as much as 20 per cent. without enlarging them or adding to their weight.

"The change was made simply by altering the combustion chambers so that their compression ratio would be higher. This necessarily entailed the use of anti-knock fuel, but it has solved the problem, at least temporarily, both for those who like to look at automobile lines and those who like to watch speedometers."

NEW "AMPLE-AIRE" PHARIS WHEEL

With the introduction of its Ample-Air Pharis wheel, the Pharis Tire and Rubber Company of Newark, O., is among the first to get into production with the large-size, low-pressure tires now commanding nation-wide attention. Sizes at present being manufactured by Pharis are the 6.50—16, 7.50—15 and 8.25—15, all designed for twelve-pound pressure. These Ample-Aire Pharis wheels are being furnished in complete sets, five wheels, five tires and five tubes, and orders are already reported as being received in satisfactory volume.

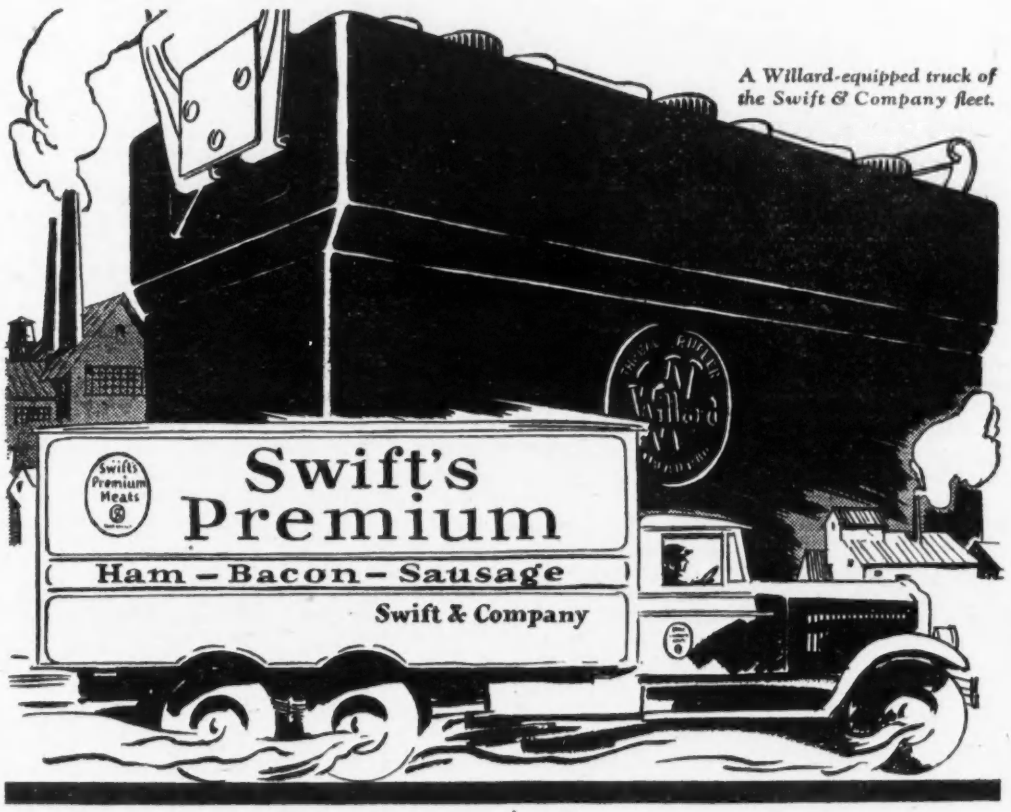
With this new product now added to its previous line of Heavy Duty Roadgrippers, Pharis De Luxe, Comrade and Longdrive tires, the Pharis company again demonstrates its ability to keep in the van of modern tire development.

The Pharis cushion cap on strong, flexible carcass, its center traction and running ribs, deep non-skid tread and sturdy side walls are some of the Pharis features designed to meet the requirements of safety and long wear under modern driving conditions of high speeds, free-wheeling and quick stopping. The new Ample-Aire may be expected fully to measure up to the 22-year-old reputation for a good product already established by the Pharis company in the millions of tires it has put on the road.

One of the oldest companies in the industry, Pharis is also one of the busiest, and the steady activities at the factory indicate that this is one of the companies that has been least affected by adverse conditions of the past two years.

GAS HEATER CATALOG

Lee B. Mettler Company is distributing a catalogue covering its new offering in the gas burner field. The Series C conversion assemblies are fully described and illustrated in the catalogue and there is a full description of the safety pilot, an automatic device designed to give a dependable and sensitive means of shutting off the gas from the furnace in case the pilot is extinguished.



A Willard-equipped truck of the Swift & Company fleet.

***More miles . . . More months . . . with a* WILLARD**

Fleet operators everywhere will tell you their Willard-equipped trucks stay on the job. «·» Ruggedly built . . . each type designed for a specific service . . . the result of 29 years of battery engineering. Willard Truck Batteries possess the same high quality that has made Willard the leader in the passenger-car field. «·» Kept fit through a nation-wide Willard service organization of more than 30,000 friendly dealers, Willard Batteries will give you dependable, satisfactory service—for more miles and more months. «·» Specify Willard on your next battery order.

STORAGE BATTERIES
Willard

WILLARD STORAGE BATTERY COMPANY • *Cleveland* • *Los Angeles* • *Toronto, Ont.*

QUICK STARTS . . . AND MANY OF THEM

Automotive Daily News

"Of, By and For the Entire Automotive Industry"

Published Every Day Except Sunday and Monday by
AUTOMOTIVE DAILY NEWS PUBLISHING CORPORATION
350 Hudson St., New York, N. Y.

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Address ALL Advertising and business correspondence to 350 Hudson St., New York city

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Detroit Bureau, Chris Sinsabaugh, editor, 427-8 Fisher Building, Detroit, Mich. Telephone Trinity 2-3500. Contributing editor, John C. Wetmore.

Motor Truck Regulation

IN the current issue of the Review of Reviews, Edward M. Barrows writes very clearly and convincingly on the present movement to bring motor truck transportation under the sway of the Interstate Commerce Commission. He finds that "Automotive transportation cannot be measured with the Interstate Commerce Commission's present yardstick." We quote Mr. Barrows' arguments and submit them as worthy of careful consideration by both sides of the present battle arrays:

"The machinery required to enforce a truck regulatory law would make our national prohibition enforcement unit look like a local police force. No system of regulation can be made effective unless it can be made to apply to the contract carrier, and yet the shipping public will not tolerate restrictions that lessen his peculiar value."

Indicating the advantages to the public in economy, speed and convenience because of truck door-to-door service, Mr. Barrows declared the nature of automotive power and of public highway development "throws this system of transportation widely open to all sorts and conditions of men, and to all sizes of capital investment, that anything like transportation monopoly is a thing of the past.

"It is probable that little would be heard of the need of automotive regulation, outside of its policing needs, if it were not for the growing uneasiness of the railroads, who are naturally interested in protecting themselves from the threatened inroads of automotive transportation. Impending conflict between the two is not less serious because it is unnecessary, arising from the artificial conditions under which our superregulated railroads have been forced to operate.

"No railroad can be expected to handle certain types of parcel lot shipments when automotive services are available. It is not even competition. The automobile is merely doing something that the railroads are not organized to do, but which in the past they have had to handle as best they could, and charge rates accordingly. The two kinds of service have nothing in common, and their rates can have nothing in common.

"To the layman, the obvious procedure is to let the railroads expand their functions as common carriers, by using automotive transportation as a part of their systems whenever the interests of the shipping public require this.

"This is the point of view advanced by many leaders of the automotive transportation industry themselves, and naturally by most of the important shippers of the country. Also it is agreed to by a minority of the major railroad men."

Economic authorities are pretty well agreed that there can be no major upturn in business until commodity prices show an upward trend. Which is cause and which effect is a hard matter to determine. It is something like the old trick question of "which came first, the chicken or the egg?" But one thing is certain, commodity prices have as yet shown little evidence of strength.

This makes the moderate gain in wheat prices a matter for distinct hope. In a recent article the Herald-Tribune in New York comments on this: "There are several reasons why the wheat market is of real barometric importance at the present time. One reason is that there is more intelligent and less unintelligent speculation in it than is to be found in the stock market, with its wide amateur fringe; another is, that it is not susceptible, as is the bond market, to direct monetary influences; and a third is that that course of commodity prices is more important than is any other index of business at the present time."

The gain registered in wheat prices is due to reports on the crop for this year, which appears to be considerably below last year's level because of decreased acerage planted and also from unfavorable weather conditions in certain heavy production areas.

This emphasizes again the fact that for once a bad crop would be hailed as a factor in promoting prosperity.

In This Corner . . . .

Opinions, suggestions, complaints, criticisms, grievances or what have you. Open to every one to say anything, anyhow, any time. The communications printed in this department represent the ideas and opinions of our readers. They are not necessarily ours. If you have something to say on any phase of automotive activity, wholesale, retail or abusive, let us hear from you and we will tell the world.

Urges Boycott of Gasoline As Tax Protest

Automotive Daily News: Being a steady reader of your valued publication ever since its inception, may I congratulate you on your splendid article covering the New Jersey Auto Trades Association convention, held last week at Atlantic City?

Needless to say, the proposed increase in the gasoline tax here in New Jersey is a major topic, not only among auto trade associations but among all types and classes of car owners.

In connection with this, may I put forward a suggestion which might make an impression on the solons at Trenton—let every car owner in the state cease using his car for a period of forty-eight hours each month. I fully realize that this might mean some sort of sacrifice on the part of the owners, but when, as I believe, the state right now (with a 3-cent tax) receives a daily revenue of approximately $50,000, I should think that any car owner would be willing to make this so-called sacrifice if for no other reason than to bring the fact forcibly home that the motorist or car owner will not stand for being so heavily and needlessly taxed in order to provide monies which, as is well known, can be raised in various other ways.

Failing this, why not, on a specified date, have every car owner drive to Trenton and fill the city streets so chock-a-block full of cars that the resultant traffic tangle would be the greatest the city has ever witnessed.

BERT JAY NORTH,
U. S. Motor Sales Company
West New York, N. J.

Trade Association News

Club Protests Proposed Toll on City Bridges

Charging that the proposed tax on vehicles crossing the bridges spanning the East River amounts to class taxation of a most prejudicial nature, the New York Automobile Club filed its protest with Mayor James J. Walker.

The club offered the co-operation of its entire membership in any fight against what would be equivalent to exacting a toll for the use of the streets and highways of New York city.

"With the cost of all of the East River bridges already paid for," said J. Mack Young, vice-president, "these structures have automatically become part of the highway system of Greater New York.

"It does not seem either morally or legally right to single out motorists to increase the city's revenue when they are already overburdened with state and contemplated national taxes."

NEW PACKARD DEALER

Hackensack, N. J., May 19.—The Packard Bergen County Company has opened showrooms at 98 1st St. and will handle Packard sales in Bergen county.

2 NEW JOBBER GROUPS ORGANIZED IN SOUTH; M. E. W. A. AFFILIATES

(Continued from Page 1)

motive Wholesalers Association in Jacksonville, Fla., representative jobbers from Georgia, Florida, Alabama and portions of South Carolina and Tennessee elected the following officers: President, A. S. Hatcher of A. S. Hatcher & Co., Macon, Ga.; vice-president, Carlyle Frazier, Genuine Parts Company, Atlanta, and secretary-treasurer, J. L. Stevens, General Auto Supply Company.

Members discussed and strongly disapproved preferentials accorded to channels of distribution in competition with automotive jobbers.

COMING EVENTS

MAY

16-20—**San Francisco, Cal.** United States Chamber of Commerce, annual meeting.
19-20—**Chicago, Ill.** National Battery Manufacturers Association meeting, Hotel Sherman.
23-28—**Chicago, Ill.** Radio Manufacturers Association, meeting, Hotel Sherman.

JUNE

Paris, France.—International Automobile Manufacturers Association sixth annual Motor Transport Congress.
1- 3—**Tulsa, Okla.** American Petroleum Institute, mid-year meeting, Mayo Hotel.
8-11—**State College, Pa.** American Society of Mechanical Engineers, National Oil and Gas Meeting.
12-17—**White Sulphur Springs, W. Va.** Society of Automotive Engineers, summer meeting.
20-24—**Chicago, Ill.** Motor and Equipment Wholesalers Association, Edgewater Beach Hotel, summer conference.
20-24—**Atlantic City, N. J.** American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall.

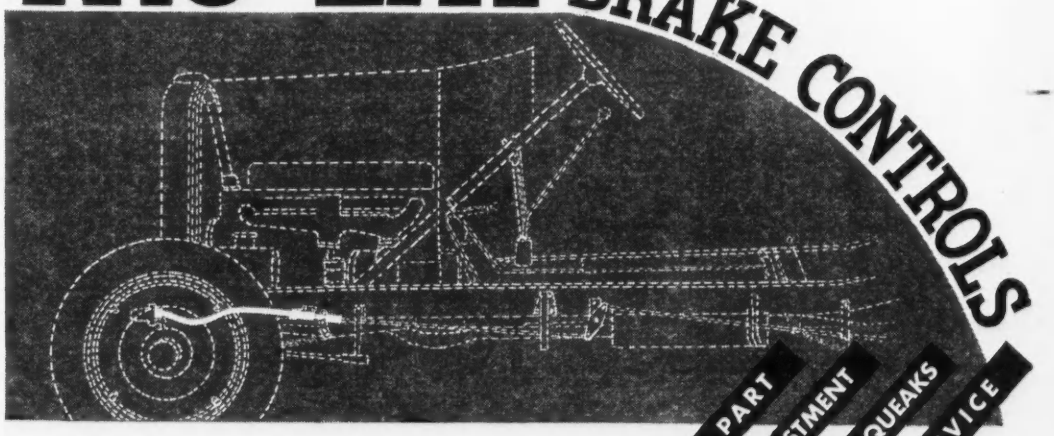
JULY

3—**France.** Grand Prix Automobile Race.
5- 9—**Southampton, England.** Commercial Car Show.
9-16—**Belgium.** Grand Prix Automobile Race.
17—**Germany.** Grand Prix Automobile Race.
20-22—**Llandrindod, Wales.** Commercial Car Show.

OCTOBER

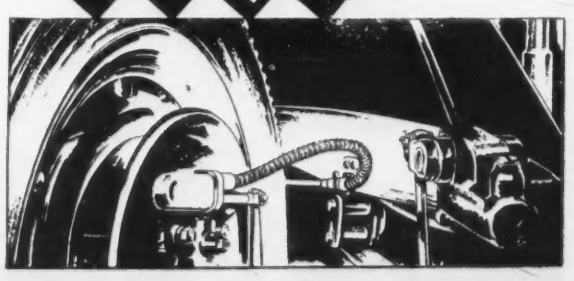
3- 7—**Washington, D. C.** National Safety Council, meeting.
3- 7—**Buffalo, N. Y.** National Metal Exposition, 174th Regiment Armory. W. H. Eisenman, 7016 Euclid Ave., Cleveland, director.
3- 7—**Buffalo, N. Y.** National Metal Congress. Sponsored by American Society for Steel Treating, with cooperation of American Society of Mechanical Engineers, Institute of Metals and Iron and Steel Divisions of American Institute of Mining and Metallurgical Engineers, American Welding Society, Wire Association.
13-22—**London, England.** Olympia Show.

TRU·LAY BRAKE CONTROLS



ONE MOVING PART
CONSTANT ADJUSTMENT
NO RATTLES OR SQUEAKS
CAR-LIFE SERVICE

There is only one moving part—a *pre*-formed multiple wire strand which slides in grease tight, water proof housing. The housing is built up of wire, woven into the form of a flexible tube—reinforced inside and outside. Samples for test will be furnished upon request.



AMERICAN CABLE COMPANY, Inc.
Automotive Division
BRIDGEPORT, CONNECTICUT
3-111 General Motors Building
Detroit, Michigan

An Associate Company of the American Chain Company Incorporated

"We've always used paint," said the p.a.

THE new salesman spread out a series of color cards.

"What is it?" asked the purchasing agent doubtfully.

"Cellulose lacquer," said the salesman. "You need only three coats of this instead of the usual dozen."

"For what?" asked the p.a. "What's it for?"

"It takes the place of paint—"

The p.a. shook his head. "We've always used paint."

"But—" said the salesman, "this lacquer saves time and labor and money. You spray it on—"

"We use brushes," said the p.a. placidly.

"And it lasts longer and looks better than paint. And you can have all sorts of new color combinations."

"But it doesn't look like paint," said the p.a. brightly, "and we don't need new color combinations. You see, most of our owners like black—"

"But it reduces your investment and expense. It's cheaper and better—"

"No," said the p.a. "You don't understand. We have a big investment in our paint works, and a lot of trained men who know just how to do our jobs—and we wouldn't be interested."

This wholly improbable conversation has gone far enough. If any automotive manufacturer had a purchasing agent who didn't know enough to jump at the lacquer process when it was first offered to him—the manufacturer would have fired him. Or perhaps he was just transferred to the advertising department!

BECAUSE there are still purchasing agents of advertising space in the automotive industry who are paint-minded, and buying brushes!

They look at The News, but fail to recognize it as a newspaper and advertising medium because it has a different size, a different front page, and a different form of contents.

They are not interested in the huge News circulation which sprays 1,425,000 copies daily and 1,850,000 Sunday in and around the great New York market,—although that circulation is composed of the same kinds of people which compose any circulation. They dismiss its giant comprehensive coverage in favor of brush media which dab at the market.

They ignore the efficiency of the small page, which has greater visibility, higher reader attention, brings more eyes to advertising space more effectively than any other newspaper medium.

They pass over the economy of The News, which permits less space to do more work, and costs far less per reader or per milline.

They assume their owners' preference for old fashioned media, when there is an obvious preference on the part of millions of people for the more convenient, more colorful, more satisfying News.

They continue to spend money in inadequate and inefficient media because they have done so in the past—"we have a big investment in that paper."

They disregard public preference and style trend—which make automobiles *and* newspapers outstandingly successes or unflattering flops.

IF THE industry did all its buying the way some of its space buyers buy space for New York, it would never have passed the bicycle repair shop stage. And if the production departments bought the advertising space, The News would be largest automotive medium in existence today. It already is the best—although some automotive advertisers haven't found it out.

Consider this newspaper, its circulation, its function, and its place in this market as coolly, as dispassionately, as scientifically as the industry's engineers consider a new process or gadget. Forget precedent in your advertising, as you do in your production. Remember function, and efficiency, and economy and service. Contrast The News with all similar services you buy. And then ask yourself if there is any possible justification in not making The News your major medium in this market!

THE NEWS, New York's Picture Newspaper

Tribune Tower, Chicago + Kohl Building, San Francisco + 220 EAST 42nd STREET, NEW YORK

REPORT 300% GAIN IN REO SALES IN CHICAGO IN APRIL

Chicago, May 19.—Sales of Reo passenger cars showed a gain of 300 per cent. in April over March in the Chicago area, according to Thomas F. Hay, president of Thomas J. Hay, Inc., distributor for this territory.

YEARS OF PERFORMANCE PROVE WHAT BROCKWAY TRUCKS WILL DO

For more than twenty-three years—with thousands of owners—BROCKWAY Trucks have proved what they will do—demonstrated their ability, economy and lasting qualities in every line of business. What BROCKWAY Trucks are doing for others they will do for you.

BROCKWAY MOTOR TRUCK CORPORATION

Main Office and Factory
CORTLAND - - NEW YORK

ORDERS FOR MACHINE TOOLS SHOW INCREASE FOR MONTH OF APRIL

(Continued from Page 1)

the same rate as in March, but slightly higher than in January and February. Unfilled orders as of April 30 were 1.23 times the April shipments and a little under twice the volume of orders received during the month. It is indicated that some orders placed early in the year were released for shipment.

Some encouragement is derived from the willingness of prospective buyers of machine tools to state their ultimate requirements. Many companies know that they will have need of equipment as soon as business recovery has begun and these potential orders are being carefully scheduled by machine tool builders and dealers so that they may be prepared to anticipate the particular types of tools that will be purchased. The necessity that many manufacturers face of reducing unit costs in production will ultimately create a considerable demand for tools of improved design."

CONGRESSMAN BRAND PROTESTS PROPOSED REGULATION OF TRUCKS

(Continued from Page 1)

the low rates offered by your competitors.

"And I venture to say that if regulation of trucks, buses and water craft comes about the Interstate Commerce Commision will find no way to protect the railroads and advance their revenue except to make rates uniform for all carriers.

"This will force rates for buses, trucks and water craft very much beyond the cost of the service."

In regard to trucks paying for their own right of way, Mr. Brand in his letter declares:

"It is argued by some that the trucks do not have to pay for a right of way and that the railroads do, but today this is, at least, a debatable question. The high gasoline taxes and the high license plate charges have changed that situation. On the main roads, which are the competitors of the railroads, we are spending annually about a billion dollars, and these same roads are yielding almost identically that amount from gasoline taxes and license plate charges, so the traffic is paying the entire cost of main roads."

NEW CHEVROLET DEALER

Canaan, Conn., May 19.—Larry Smith, president of Canaan Motors, Inc., Chevrolet dealership, has announced the appointment of Shook Brothers of Sheffield, Mass., as associate dealers in that territory.

BARTH LEAVES OLDS UPON PROMOTION FROM G. M. C.

Lansing, Mich., May 19.—W. L. Barth, former assistant general service manager of the Olds Motor Works, and connected with the service division of the Buick-Olds-Pontiac Sales Company for the last two months, has been made assistant general sales manager for the General Motors Truck Company at Pontiac.

WISCONSIN AXLES

Maintenance costs are cut to the bone—reliability attains a new standard of comparison—where trucks and buses are equipped with Wisconsin Axles.

WISCONSIN AXLE CO.
Oshkosh, Wisconsin

Cumulative New Commercial Car Registration Statistics, April, 1932

Returns for today: Arkansas, Idaho, Indiana, Nebraska, New Hampshire, New Mexico, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Virginia and Washington.

Figures in this table are from R. L. Polk & Co. of Detroit, with the exception of Illinois, which are supplied by the Robinson Advertising Service, Springfield, Ill., and New Jersey, which are furnished by the New Jersey Motor List Co., New Car Division, Trenton, N. J. Metropolitan district figures compiled by Sherlock & Arnold are included in New York state total. Readers desiring county, city or town lists, or lists of owners in any given section, may obtain these by addressing any of these three companies. Some of this data has been published previously, but it is given here complete for the convenience of our subscribers. Commercial car figures do not include busses.

In this table, 26 states and the District of Columbia.

States	Autocar	Brockway	Chevrolet	Diamond-T	Dodge	Federal	Ford	G. M. C.	Indiana	International	La France Republic	Mack	Pierce-Arrow	Reo	Sterling	Stewart	Studebaker	White	Willys-Overland	Miscellaneous	Totals	States
Arkansas			53		3		52	2		8								1		1	120	Arkansas
Delaware	1		27				15	5		8				2			3			3	65	Delaware
Florida			74				56	2		7				1			1	1		8	150	Florida
Idaho			37		2		28	3		13				2							85	Idaho
Illinois	1		281	28	37	3	194	35	1	100	2	27		7	4	1	14	10	7	29	781	Illinois
Indiana			193	8	33	2	130	18	19	54			1	5		2	24		6	7	502	Indiana
Maryland	6	4	124	3	8	6	50	15		30		5		8			3		1	2	265	Maryland
Michigan			248	4	41	14	170	21	1	47	1			18			14		3	13	595	Michigan
Minnesota			185	15	28	6	95	8		63	1	3		12	1		14	5	7	9	452	Minnesota
Missouri	3		334	12	28	3	168	22	4	81	2	2		15			8	1	6	12	701	Missouri
Montana			36		4		49	1		25				4			1		1		121	Montana
Nebraska			107	1	7		77	4		37		4		6			5	1	4	3	256	Nebraska
New Hamp.			63	9	2	1	50	6		10				8		2	2		2		155	New Hamp.
New Mexico			28	1	3		22		1	11											66	N. Mexico
Nor. Carolina			153		13		85	12		27	4						1			9	304	North Car.
North Dakota			37		3		21	1		18							3		1		84	North Dak.
Oklahoma			123		7	1	73	9	1	22							1		3	3	243	Oklahoma
Pennsylvania	15	12	518	8	134	17	298	58	3	184	2	20		21	1	29	33	13	21	40	1427	Penna.
Rhode Island	1	4	41		4	19	56	11		12	1	1	2	3	3		1	1			160	Rhode Isl.
So. Carolina			72	2	5	2	40	5		10							2				138	S. Carolina
Sou. Dakota			29		3		10	2		19							4				67	S. Dakota
Utah			30				24	4		7				1			3	2			71	Utah
Virginia			169	2	14	2	59	35		29	1	2		8		2	1	2	1	9	336	Virginia
Washington			81	10	6	1	55	17		29		1		1			7	2	1	7	218	Wash'ton
West Virginia			124		16		47	13	2	16	1			7					4	2	232	W. Virginia
Wisconsin	1		202	16	18	1	90	14		48		2		11	1	2	13	3	7	15	444	Wisconsin
Dist. of Col.	1		59	5	4		26	22		3		1		4			2			2	129	Dist. of Col.
Totals	29	20	3428	124	423	78	2040	346	32	918	15	68	3	144	10	38	160	42	75	174	8167	Totals
Arkansas, '31		1	98		12		146	2		48				5			1	2			315	Ark., 1931
Delaware, '31	4		35		1		78			9		2		1		1	2				133	Del., 1931
Florida, 1931			144		6		259	2		13				2				1		1	428	Florida, 1931
Idaho, 1931			56		10		74	1		8		1		4			1	2	2	2	161	Idaho, 1931
Illinois, 1931	2	10	513	33	77	16	816	23		121	1	10		7	8	3	32	1	23	79	1775	Illinois, 1931
Indiana, 1931		11	404	5	65	1	518	35		96		2		18	3	9	17	2	24	20	1229	Indiana, '31
Maryland, '31	4	2	176	8	24	2	245	13		45		13		7			7	8	5	4	563	Maryland, '31
Michigan, '31	4		333	6	47	9	755	27		49	3	4		10	1		13	2	14	14	1291	Mich., 1931
Minn., 1931			385	16	40	3	437	15		84	13	4		9			12	6	24	12	1060	Minn., 1931
Missouri, 1931		7	480	11	41	5	465	18		74		2		6	5		3	2	11	44	1174	Missouri, '31
Mont., 1931			58		8		107	1		26				1				2	2	5	210	Mont., 1931
Nebraska, 1931			207	4	11	2	235	4		58							10	1	11	2	545	Neb., 1931
N. Hamp., '31		2	101	6	8		185	4		6	1	4		6		5	4		2	2	336	N. H., 1931
N. Mexico, '31			60		4		75	1		8							1	2		2	153	N. Mex., '31
Nor. Car., '31			245		21		281	9		44	4	3		2			5	2	2	4	622	N. Car., '31
N. Dak., 1931			87		14		92	1		46				7			2		4	1	254	N. Dak., '31
Okla., 1931			189		15	2	213	3		22		1		3			3	1	5		457	Okla., 1931
Penna., 1931	26	43	654	7	174	9	1124	45		131	8	42	1	26	16	25	32	23	35	43	2464	Penna., 1931
Rhode Isl., '31	2	2	45		12	2	134	3		9		2		4	1			2	1		219	Rh. Isl., '31
So. Car., 1931		2	186		11	1	150			6							1	1		7	365	S. Car., 1931
S. Dakota, '31			79	6	10		57	1		30				2			7		5	1	198	S. Dak., '31
Utah, 1931			69		5		100	4		11		1		3			1			7	201	Utah, 1931
Virginia, 1931		4	257	1	22	2	260	9		22	5	10					2	3	6	15	618	Va., 1931
Wash., 1931			116		13	3	258	5		31		2	2	7			12	2	1	25	477	Wash., 1931
West Va., '31	2	1	148		21	1	209	18		26	3			3		1	1		6	4	444	W. Va., 1931
Wisconsin, '31			374	21	22	7	384	14		54	1	1		6	6	4	16	3	11	21	945	Wis., 1931
D. of C., 1931	10	1	33	4	12	2	147	9		16	1	4		2	1		1	4		6	253	D. of C., '31
Totals	54	86	5532	128	706	67	7804	267	*	1093	40	108	3	141	41	48	186	71	194	321	16890	Totals

*Combined with Brockway.

DOUBLED!

REO'S DUAL FRANCHISE

Now twice as valuable

★ ★ ★

TWO PROFITS WITH ONE OVERHEAD

Reo truck sales for the last nine consecutive months have exceeded every corresponding month of the previous year.

In a market of constant declines, Reo steadily advances!

No wonder 600 new dealers joined Reo. The volume possibilities for a truck line like Reo's are apparent to anyone who makes even a casual study of his market.

And now Reo doubles the value and appeal of its dual franchise by introducing a magnificent new air-streamed Flying Cloud at $995!

Two years ago the same type Flying Cloud sold for $1595. Yet this new car is finer, faster and infinitely more beautiful. Aerodynamic throughout, it is today's closest parallel to its elder sister, the distinguished and much-copied Reo-Royale.

For a steady, year-round money making opportunity, Reo never offered more—and for 27 years Reo dealers have been among the most consistent money makers in the business!

Reo Trucks and Speedwagons range from 1½ ton to 4 tons. Prices $625 to $2800. The New 6-cylinder Speedwagon with the Gold Crown engine at $745. Chassis f. o. b. Lansing.

The New Tractor-Trailer unit—1½ ton to 4 ton Tractors with matched semi-trailers, gross capacity—16,000-35,000 lbs. $1575 and up. Chassis f. o. b. Lansing.

Reo Flying Cloud passenger car prices range from $995 to $1565. Reo-Royale passenger car prices range from $1785 and up. Standard models—f. o. b. Lansing.

REO MOTOR CAR COMPANY - LANSING - TORONTO

REO MOTOR CAR CO., Lansing, Michigan.
Please send me at once—either by letter or through your representative—details of the Reo Dual Franchise.

Line (s) now handled_____

My Firm Name_____

Address_____ (City) _____ (State)

ADN 5-20 *By*_____

SPECIFICATIONS GIVEN OF REO'S NEW 1½-TON SPEEDWAGON MODEL

(Continued from Page 1)

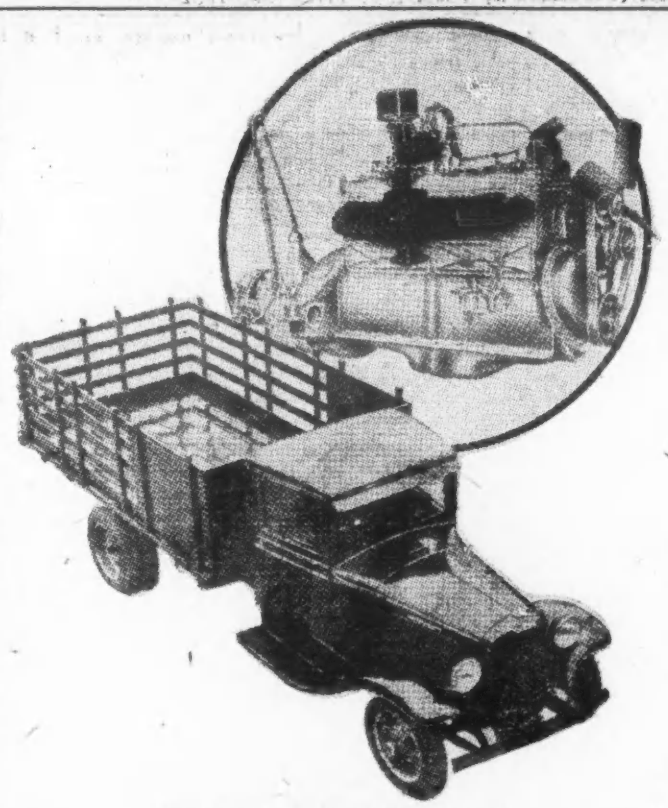
and also designed for safety. The four-speed transmission provides ratios of 1.86 to 1 in third, 3.55 to 1 in second, 6.61 to 1 in first and 8.16 to 1 in reverse. The rear axle, of full-floating, spiral bevel type, with straddle mounted drive pinion, carries standard ratio of 5.28 to 1 on the 140-inch wheel base jobs and 5.83 to 1 on the 164-inch. In addition to these two ratios, 6.6 to 1 gears are offered for use where service conditions justify.

There are long, flexible springs, 40x2 inches in front and 50x2½ in the rear. Cam-and-lever steering and roller thrust bearings at the steering knuckle pivot bolts aid steering. Tapered roller bearings are used in both front and rear wheels. Reo practice brakes are of the two-shoe, hydraulic, internal type, fully inclosed. Master cylinder is of the self-replenishing type. Service brake areas are of 246 square inches.

Reo has announced that in addition to the six-cylinder Speedwagon line powered by the Gold Crown engine, priced at $745 f. o. b., Lansing, for the chassis, it will continue its four-cylinder line priced at $625. Both six and four-cylinder Speedwagons are available as tractors for semi-trailer operation, as well as with a full line of Reo-built standardized bodies. When these Speedwagons are built for trailer operation vacuum brakes are fitted. Complete semi-trailer outfits are priced at $1,575 up, f. o. b., Lansing.

DEALERSHIP ELECTS

Waterbury, Conn., May 19.—Martin A. Doolittle, veteran Waterbury dealer, has been elected president and secretary of Reo Sales, Inc., Waterville. Cyril Arsenault is vice-president and assistant treasurer, and Charles P. Barker, treasurer. Paid-in capital is $6,200.



New Reo six-cylinder stake body truck

THREE NEW MODELS OF 6-WHEEL TRUCKS BY DODGE BROTHERS

(Continued from Page 1)

service brakes are six-wheel hydraulic, vacuum booster actuated; drum diameter, front, 12 inches; driving and trailing axles, 14 inches; total service braking area, 273.2 square inches; reinforced trunnion mounting, tubular steel trunnion tube 3½ inches in diameter securely riveted to frame and connected to each axle with a torque arm at each end; springs on driving axle anchored above axle with torque arms below; trailing axle of heat-treated tubular steel 3¼ inches in diameter, with 3¾-inch tubular sleeve center and two tapered roller bearings at each wheel; inverted semi-elliptic rear springs of alloy steel, 43⅜ inches long, 3 inches wide, with 9 leaves clipped to floating mounting on trunnion tube and anchored at each rear axle.

The mean wheel base of the model GS-55 two to four ton capacity six-wheel unit is 158 inches. The six-wheel hydraulic vacuum booster actuated service brakes of this model have cast cylinder iron drums. The drum diameter of the front wheel brakes is 14 inches, and on the driving and trailing axles, 16 inches. Total service braking area is 365.97 square inches. Frame, spring and mounting design six-wheel operation follow the same general lines of the 1½ to 3-ton models.

The torque reaction of the driving axle is carried through the torque arms directly to the frame, making it impossible for the load to shift from one axle to the other.

The six-wheel models are powered by the same engines used in the standard line trucks which they supplement.

BOOSTING BUSINESS BY NEWSPAPER ADS

(Continued from Page 4)

trict are grouping their classified advertising under a heading: "If you live in South Jersey buy your car in South Jersey." The statement continues:

"It is those things which you cannot see on the surface that make a used car either a good or a poor value. Very few automobile buyers can tell the condition of a motor by listening to it run. Almost the only thing you can judge are the paint jobs and the condition of the upholstering. But it's the mechanical condition of the car which will decide your future satisfaction. This is the point where it pays to depend on the word of an established new car dealer who is selling the used car simply as a means of furthering new car sales. The new car dealer is anxious to please you with a good used car. If he secures your goodwill he has a better chance of sellingyou a new car later. And he's pretty certain to get that goodwill if he gives you a fair deal in a good used car. Getting back to the subject: The best way to know what you're buying in a used car is to go to a new car dealer and depend on his word.

"It's the safe way to spend good money for a used car. Apply this logic when you buy. You will come out ahead of the game."

Three Tips for Salesmen In Philadelphia Contest

(Continued from Page 4)

show you how to prove to yourself that we are giving you all that your car is worth, are you ready to place your order now?"

"Yes, if I can get the right price for my car."

"Well, what do you consider is the right price for your car, Mr. Prospect?"

"I thought about $400, but Mr. Holterman has told me that I couldn't get that much for it."

"Mr. Prospect, on what did you base your opinion as to price or value of your car? How did you arrive at that figure, I mean?"

"Why, I paid almost $1,500 for that car, and it's still in good condition."

"Yes, you paid about $1,365 for your car. It was $1,235 at the factory; but that was four years ago, remember, Mr. Prospect! You know, you can buy automobiles a lot cheaper today than you could four years ago. And you know that, too, don't you, Mr. Prospect?"

"Yes, I suppose that's true."

"I'll show you just how true that is and on what basis we place the value of used cars. Here is a book that is known as the 'Red Book.' It's published by a company in Chicago, and the prices in the back are based on 215,393 past sales made through the United States. Now, you see, the actual value placed on your car is $95. Take this pencil; I want you to prove to yourself that this is the proper value."

"But, correct or not, I wouldn't think of taking anything like that for it."

"No, Mr. Prospect, we don't expect you to, but I do want you to know how this price is arrived at. Your car sold new for $1,235. The first year's depreciation is 50 per cent."

"What? Fifty per cent. for the first year?"

"Yes. You see, it's just the same as anything else. Suppose you were to buy an oil burner or a sewing machine or, take in your own business, suppose you paid $500 for a new lathe and wanted to sell it after you had had it for a year, how much do you suppose you could get for that? Surely, you couldn't get half what you had paid for it, could you?"

"N-o—— But I thought automobiles were different."

"Now, take 50 per cent of $1,235. At the end of the first year the car in good condition would be worth $617.50. That's right, isn't it? Now, the second year, it would only depreciate 40 per cent. Fory per cent. of $617.50 is $247, taken from $617.50, would leave $370.50. The third year's depression at 30 per cent. would be $111.15, which, taken from $370.50, leaves it $259.35. The fourth year, also figured at 30 per cent. depreciation, would make your automobile worth $182.55, if it is in good condition. Now, we have to sell your car when we get it a here, don't we?"

"W-e-l-l, yes."

"Every car that comes in costs us $35, just for service, etc. Now, our selling expense, such as advertising, commissions, etc., on this car would be at least $25, and would make your car worth $122.55 to us, wouldn't it?"

"Yes."

"Now, I haven't seen your car. What condition is it in, Mr. Prospect?"

"It's in fine condition!"

I have, of course, the appraisal sheet on my desk, and it shows that there are three smooth tires on the car.

"Are the tires all good, Mr. Prospect?"

"Well, there are two practically new ones. The other three are still good."

"But, we can't sell the car with those three smooth tires on it, can we, Mr. Prospect? You see, by the time we put three tires on the car—even though they may not be new ones, it will bring the price of your car down to 'Red Book' after all, wouldn't it? Do you see now that the actual value of your car is about $100?"

"Yes, I do—according to those figures."

"Well, I'm not going to ask you to take 'Red Book' price," and without saying any more, I wrote the order, allowing him $170 for his car, and he signed it.

I find this method to be very effective. Maybe because by the time I get through with them they are worn down where they haven't enough resistance to say "No," but in most cases I believe that a fair-minded man can be shown that "Red Book" should, and does, govern the prices on used cars.

I use the Red Book in many ways when closing. It is my opinion that salesmen should uphold the book more than they do.

I have often heard the prospect say, "That book doesn't mean anything," and the salesman will frequently say, "No, it doesn't—but it gives you an idea."

CHARLES A. ARNOLD,
Thornton-Fuller Automobile Co.,
1213 North Broad St., Philadelphia.

Costs at the Lexington are geared to 1932

Next time you come to New York, register at The Lexington. Only a block from Park Avenue, and less than five minutes walk to the Grand Central station. Quiet, comfort, convenience, economy.

Restaurant prices have been revised...breakfast now 50c, luncheon 65c and dinner $1.00.

* * *

Room Rates as low as $3

Room rates: for one person...$3, $4, $5 and $6.
For two persons only $1 extra. Parlor suites $10.

HOTEL LEXINGTON

LEXINGTON AVE. AT 48TH ST., NEW YORK CITY

Located in the Grand Central Zone • Charles E. Rochester, General Manager

Have you a message for Engineers?

Engineers and production men of the industry will gather at White Sulphur Springs, June 12 to 17, for the summer meeting of the S. A. E.

Each day *Automotive Daily News* will cover the meeting editorially. Copies will be mailed to all important engineers, production men and other factory officials in the industry in addition to those who attend the meeting.

Please send space reservations early. Forms close two days preceding publication.

Automotive Daily News

H. A. TARANTOUS, *Bus. Mgr.*, 350 HUDSON STREET, N. Y. C.
DETROIT OFFICE: Geo. M. Slocum, Manager
Fisher Building, Detroit, Mich.
WESTERN OFFICE: Willard R. Cotton, Manager
333 No. Michigan Ave., Chicago, Ill.

The Need for Co-ordinated Transportation

(Continued from Page 5)

shippers to patronize a poorer or more costly service merely because of our need for the business. No such condition faces us. Every click of singing wheels on our magnificent steel highways ought to beat into our craven hearts the message that the railroad is not whipped; that in it we have the most efficient and economical carrier in the world; and all that is necessary in order for it to render a service incomparably better and cheaper than any competitor is for those of us who use it to adapt it and ourselves to modern progress. Only by this means can we hope to retrieve our lost traffic.

"The railroad, during a century of inertia, has surrendered its parcel traffic to each succeeding competitor which has arisen to challenge it. First the express messenger, sensing the railroad's failure, met the demands of its parcel patrons by expanding his eighteen-inch portfolio into a seventy-foot express car. Next the parcel post met the demand for the carriage of still smaller parcels, which both the express company and the railroads scorned. Then the freight forwarders and consolidators, through superior management, take our traffic from us by using our own facilities more efficiently than we use them ourselves. Now, while we whistle in the dark, the trucks are taking what is left of our parcel business. Fifty years, during which competitor after competitor has successfully invaded our merchandise traffic, ought to make us suspect that something is wrong with that service. The irony of the situation is that three of these competitors use our own facilities to give a better service than we give. The trucks themselves are beginning to awake to the fact that they can do the same thing. The fault, therefore, lies not in the railroad facilities but in our own failure to use them intelligently. The progeny of this century of inertia are inept containers, wasteful packaging, incomplete carriage, inflexible schedules, interminable delays, wasteful practices, non-bearable rates and an unintelligent classification.

(To be continued)

TAX ON TRUCKS IS VETOED BY FRANKLIN, KY., MAYOR

Louisville, Ky., May 19.—Mayor T. E. Kennedy of Frankfort, Ky., has vetoed an ordinance imposing taxes on trucks operating in and out of Frankfort for receiving or delivering of merchandise, on the ground that it would impose too heavy a burden on owners. He is the first Kentucky mayor to take such action at a time when many towns are passing such ordinances. Paris, Harlan and Greenville have enacted such laws.

NEW S. P. A. R. SALES UNIT NAMES GRAHAM AS VICE-PRESIDENT

(Continued from Page 1)

president of the newly formed S. P. A. R. Sales Corporation, which will co-ordinate the sales activities of the combined Studebaker, Pierce-Arrow and Rockne divisions. Mr. Graham was elected simultaneously with R. H. Faulkner and J. M. Cleary, also vice-presidents of the new corporation, but the announcement of his election was inadvertently delayed in transmitting a full report of the elections earlier this week.

Under this set-up each division of the new corporation will have equal representation under Paul G. Hoffman, president and generalissmo of the new corporation. Graham, Faulkner and Cleary will retain their previous positions in the various divisions in addition to their new duties.

As previously announced E. C. Mendler will continue as vice-president in charge of the parts and accessory division; G. D. Keller will be general manager, and L. K. Manley manager of branches.

The new sales set-up makes immediately available to the Pierce-Arrow, Rockne and S. P. A. truck dealers the facilities of the eighteen regional offices formerly serving Studebaker dealers only. Twelve of these regional offices operate parts and accessory depots and all of them have facilities available for warehousing new cars.

While the S. P. A. R. Sales Corporation will supervise and co-ordinate matters of dealer policy as between the companies, each individual company has complete freedom of action in determining its distributing program in addition to responsibility for sales promotion and advertising. For example, Rockne, the low priced newcomer in the line, will sell its products through a direct dealer organization without distributers and without territory, while Pierce-Arrow will continue to sell through a limited number of large distributors.

G. M. Graham will continue as vice-president of Rockne Motors Corporation; F. L. Wiethoff, sales manager; J. M. Cleary as president of S. P. A. Truck Corporation; C. H. Wondries, vice-president, while R. H. Faulkner, who was recently elected vice-president of the Pierce-Arrow Sales Corporation, will also serve as vice-president of the Studebaker Sales Corporation and will divide his time between South Bend and Buffalo.

PARKER NAMED HEAD REO TRUCK DIVISION

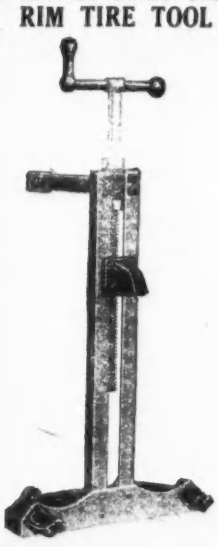
(Continued from Page 1)

Motor Car Company. Mr. Parker had been connected with the Reo company for twenty years and on October 1, last year, joined Federal as supervisor of branches.

In his new capacity with Reo it is understood he will have complete charge of sales in the truck division. This position is similar to that held by Mr. Parker during his previous connection with the Reo Motor Car Company. During previous association with Reo he was manager of the Speedwagon division, manager of the bus division, branch manager and assistant sales manager.

For a number of years Mr. Parker served as a member of the truck committee of the National Automobile Chamber of Commerce, in which capacity he accomplished much constructive work.

NEW MANLY DROP-CENTER RIM TIRE TOOL



The new Manley drop-center rim tire tool, which was described in the May 18 issue of Automotive Daily News. The tool is designed to hold the rim in rigid vertical position and is said to work equally well of wire, artillery, disk, or small doughnut tire wheels without removing hub caps.

Classified Advertising

Classified Rates 5c Per Word

MANUFACTURERS ATTENTION

Representative position wanted with nationally known product or manufacturer in automotive field. New York State or other Eastern territory desired on commission contract basis. Box 297, Automotive Daily News, 350 Hudson Street, New York.

AVAILABLE

ACCOUNTANT—EXECUTIVE, age 30, well educated, 10 years' experience as junior executive and senior public accountant in charge; thoroughly experienced audits, systems, taxes, reports, investigations, office management, particularly dealerships; reasonable; locate anywhere. Box 298, Automotive Daily News, 350 Hudson St., N. Y. city.

The Defiance

Spark Plug Specification Chart

Available to the Automotive Trade and to Fleet Owners and Operators

This comprehensive chart has been prepared by our Engineering department as a guide to exact specifications of Defiance Spark Plugs for all makes of engines and with reference to the particular characteristics of individual motors.

The chart includes paragraphs on "hot" and "cold" plugs, spark gaps, and general spark plug information for the use of automobile mechanics and service men.

Recent important developments in automotive engine design, construction and performance have placed added emphasis on the importance of more accurate spark plug specification in order best to serve the characteristics of the individual engine.

The Defiance Spark Plug Chart has been found helpful in solving problems of this nature. We shall be glad to send one or more copies upon request.

Defiance Spark Plugs, Inc.

326-20th Street · Toledo, Ohio

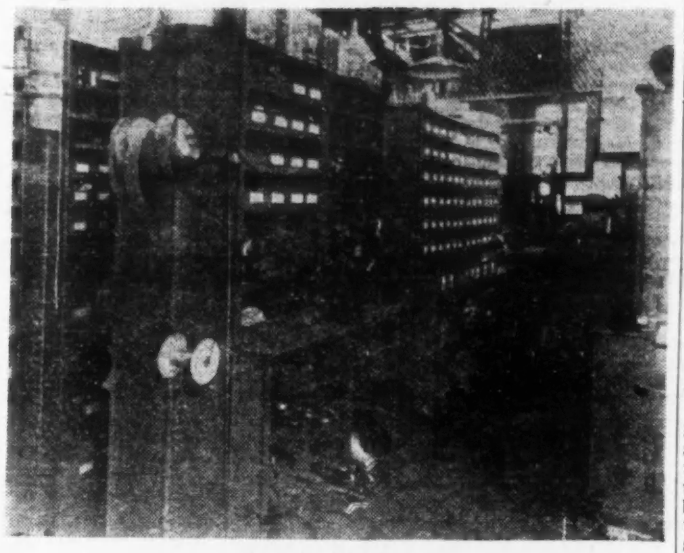
Makers of Defiance Spark Plugs of Predetermined Quality

OPERATES 250-TRUCK FLEET WITH SMALL PERCENTAGE OF TIME LOST BY BREAKDOWNS

By J. RUSSELL WALSH

In the operation of a fleet, the primary consideration is to keep the vehicles in operation the greatest percentage of the time. The success of operation is largely a measure of careful zoning, planning, dispatching and an adequate maintenance program.

Motor Haulage Corporation, 18 Amity St., Brooklyn, N. Y., is a large fleet operator which uses approximately 250 vehicles. The fleet consists, for the most part, of Macks, Packards, Pierce-Arrows and approximately 10 per cent. of other miscellaneous makes.



View of Stock Room

C. S. Lyon, vice-president and general manager of the corporation, is a firm believer in preventive maintenance to insure against as large a measure as possible delays or breakdowns on the road.

Both a day and a night crew are employed, since some of the trucks operate the greater part of twenty-four hours.

The trucks are divided into fleets, each in charge of an inspector, with a top mechanic. Each fleet consists of twenty trucks, not of the same make. An attempt is made to have each fleet operate approximately the same total mileage, so that the service requirements of each will equalize.

Trucks are brought in for routine service, such as greasing, checking, steering, wheels, etc., and inspection every two weeks. Each vehicle is thoroughly washed before being delivered to the service station.

Oil is changed during the inspection period. The change is not made on a mileage basis, and for each vehicle may vary from 500 to 2,500 miles.

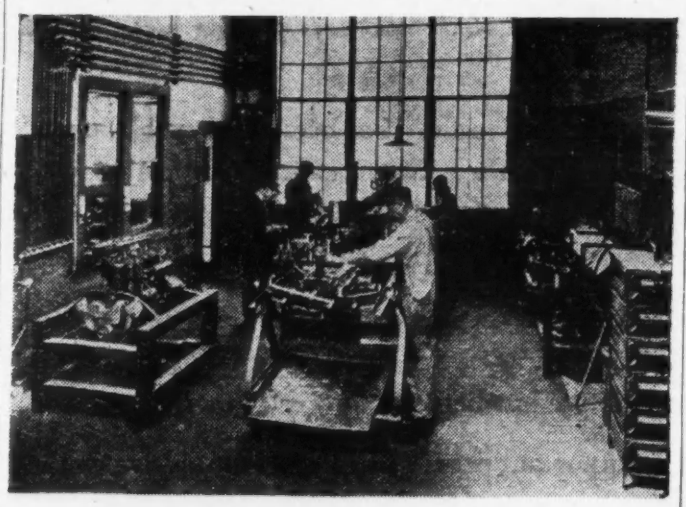
A complete historical record is kept, including the work done on these periodical inspections. Records are considered very valuable and are in regular use. This corporation has long since recognized the futility of keeping expensive records which are not useful, and therefore, have reduced their number to a minimum. The present records provide an operating cost and maintenance history extending over a period of years for each truck.

A daily report is made out by each driver covering the condition of each vehicle. If the operation is satisfactory, the driver marks his report O. K. If a minor difficulty requires correction, a notation is made on the report and the vehicle is serviced by the night crew. The truck is not released the next morning for service unless, in the opinion of the chief inspector, it is in fit condition.

It is the policy of this company that no driver operates the same truck on two successive days.

The maintenance of these vehicles has been carried out under the unit system in order to keep the trucks in use the greatest portion of the time. For example, any engine complaint which was considered out of the ordinary was taken care of heretofore by replacing the complete unit. Likewise, a complete transmission was replaced and the damaged unit repaired without "laying up" the truck for repairs. This practice at present is not being followed, because excess equipment permits the use of a complete truck from storage and the repairs are completed with the damaged units in the chassis.

No attempt is made to trace ignition troubles on the truck. When difficulty of this nature occurs, unless the cause is obvious, a complete ignition system — magnetos, high-tension wires, housings and spark plugs are removed and turned over to the electrical department laboratory. A replacement set is always on hand. This permits a thorough check of the ignition system and the application of the proper remedy.



Engine Stand Facilitates Repairs

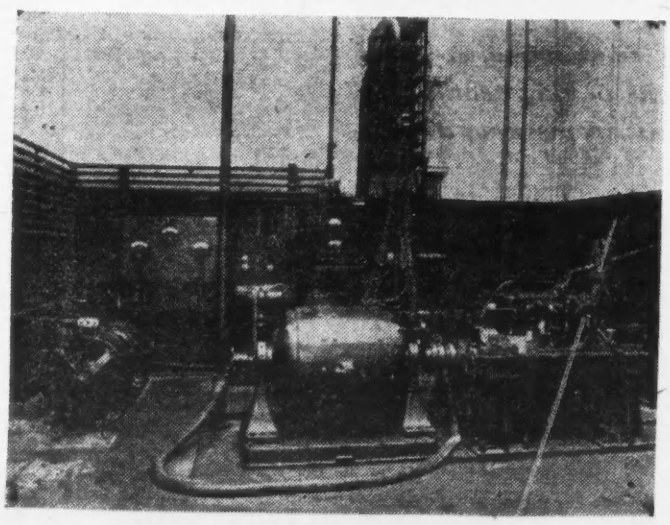
A special chamber has been built for testing sets of spark plugs under 120-pound compression pressure. Windows in the chamber permit the observation of the plugs undergoing test.

Complete engine overhaul is carried out to exacting standards. Cylinder reboring and regrinding, however, is done by outside specialists, as it was found unprofitable to maintain the expensive equipment required for these operations.

A 150-horse power electric dynamometer is used for "running-in" engines which have been overhauled. The engines are first run in with an excess of oil in the crank case and are turned over by the dynamometer, which is then operated as an electric motor. This period varies from three to eight hours, depending on the type of engine. Spark plugs are removed during this run.

The engine is next idled under its own power from three to eight hours. This is followed by a full

(Continued on Page 15)



Engine Testing Dynomometer Equipment

DUAL TRUCK CONTROL GIVES 2-WAY OPERATION WITH NO NEED TO TURN

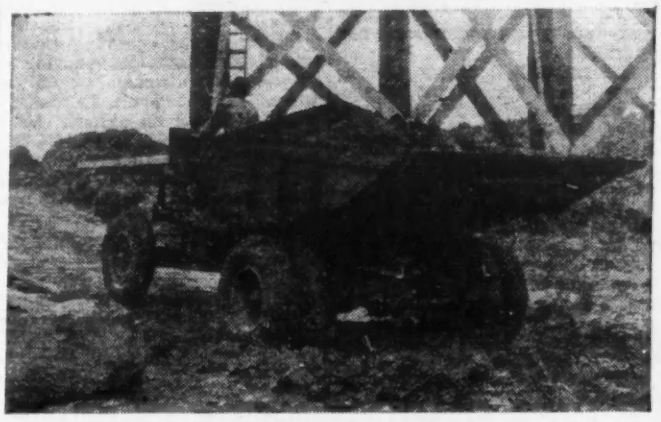
Duluth, Minn., May 19.—Marketing and production of a new heavy duty truck for road contractors, known as the Clyde truck and dirt mover, has been announced by the Clyde Iron Works of Duluth.

For hard surface road construction work, dual pneumatic tired wheels are used, if so desired by the operator. For mud road construction work or any other construction conditions that would prove difficult for tired wheels, crawlers for the rear are part of the truck.

The transmission provides four speeds forward and four speeds reverse. The truck has a capacity of seven cubic yards, carried directly over the rear axle.

Time is saved because of the fast return of the truck to the shovel for reloading without the necessity of turning around through the medium of dual controls and the Clyde four-speed transmission, which permits four speeds in either direction. The driver always faces the direction of travel because of two seats mounted in the front of the truck. There are lights on both the front and rear of the truck, making it available for night work.

THIS PICTURE shows a rear view of the Clyde truck, with the operator driving in it in reverse



THIS PICTURE shows the truck as it looks when equipped with tires

How Two South Jersey Bus Lines Operate Successfully

The Boro Bus Line, with headquarters in Red Bank, N. J., in its ten years of operation has grown from three to twenty-six units, the largest independent bus line in that section of South Jersey.

Since starting the belt line, running through Shrewsbury Avenue and the business section and the Rumson line, with three buses, they have grown to a line of twenty-six of the latest style in motor transportation.

On Saturday, February 25, 1922, the trolleys running between Long Branch and Red Bank and the line running from Red Bank to Rumson stopped running. The following morning the first bus began to run.

On March 26 the company took over a line running from Highlands to Red Bank. This line following the route of the old trolley route, with one or two exceptions.

August 26, 1922, found them taking over the line then known as the Public Transit Company, operating between Long Branch and Red Bank.

The Highlands to Long Branch line was opened January 16, 1928, this line serving Sea Bright, Monmouth Beach and North Long Branch.

A line was opened from Freehold to Red Bank on September 15, 1930, which served Tinton Falls, Colts Neck and Scobeyville. Connections for this line are made with all other lines of the company.

The Asbury Park-Red Bank line was opened to the public May 1, 1931. This line is used during the summer, being an asset for those visiting Asbury Park.

The belt line covers 234 miles a day, Highland, 600; Long Branch-Red Bank, 1,620; Highlands to Long Branch, 320; Freehold-Red Bank, 160; Asbury Park-Red Bank, 300, making a total of 3,234 miles a day that the buses of the company run.

Fred Matthews is the oldest driver in point of service. Mr. Matthews has driven on the belt line ever since its starting. It is estimated that he has driven more than 250,000 miles on this trip alone.

The company has 26 buses in operation now, four of which are of the de luxe type and are used only for long distance trips.

The company employs forty-one men the year round, with a pay roll of about $2,000 weekly.

They have their own maintenance shops, have been cited as one of the safest lines in the country by leading insurance companies, having the least number of accidents per miles run.

Having been a former bus driver is not necessarily a qualification in obtaining a similar job with one bus transportation company which prides itself upon its personnel. Applicants are given tests in which their degree of carefulness, courtesy, character and personal appearance is noted.

Once hired, the driver is "lined up" twice a month with the others and looked over. Safety meetings and inspections are held twice monthly and every driver is given an opportunity to express his opinion on any phase relating to his work.

All buses in use by the G. R. Wood Bus Company of Pitman, N. J., are given a daily mechanical inspection. The company maintains a systematic rebuilding program for its buses. They are constantly being repaired and kept in condition in the shops. Every bus is cleaned inside and out every day. Exhaust pipes are extended high over the rear of the bus to prevent the formation of gas or fumes inside the bus.

Buses in use by the company are built to hold forty-one seats, but Mr. Wood places only thirty-seven seats in them, thus avoiding overcrowding.

G. R. Wood, head of the company, has been in the bus business fifteen years and has operated the present line since 1924. G. J. Sawyer, superintendent of the firm, has been associated with Mr. Wood for a number of years.

The Wood line operates buses between Philadelphia, Pitman, Clayton and Glassboro. The company also supplies chartered buses for special group trips.

AMERICAN LEAD WILL OPERATE AT CAPACITY

Indianapolis, Ind., May 19.—The American Lead Corporation, a subsidiary of National Lead Company, has acquired the property and equipment of the American Lead Company here.

The plant is equipped to produce approximately 2,000 tons of metals a month, and during the last year has maintained constant operation at nearly capacity. Production will now be increased and steady operations at capacity are assured, it is announced.

Major Specifications and Mechanical Details of 1932 Commercial Cars

LEADING MAKES NATIONALLY DISTRIBUTED

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brake Lining	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Standard Tire Sizes Rear
Austin	400	475	Own	L	4	2.2x3	45.6	7.8	13@3000	G	Hex	Rock	Spic	Own	Til	Gra	Aut	W-G	3	Sal	Sp	5.25	O4M	76.5	75	1210	18x3.75	18x3.75
Autocar R	1½	2250	Own	L	6	3¼x4¾	314.0	33.7	75@2400	G	G & O	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Own	Sp	33.4	4IH	383	*159	5350	20x7.00	20x7.00D
Autocar D	2-2½	3600	Own	L	6	4 x4¾	358.0	38.4	82@2400	G	Per	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2R	33.5	LO4IDV*	460	150	5600	20x8.25	20x8.25D
Autocar A	1½-2	3200	Own	L	6	4 x4¾	358.0	38.4	82@2400	G	G & O	Long	Spic	Ross	Str	P	DR	Own	5	Own	Sp	29.7	LO4IDV*	460	150	5400	20x8.25	20x8.25
†**Autocar SH**	2½-3	4300	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2R	44.0	O2IM-T	328	114	6770	34x7	34x7D
†**Autocar H**	2½-3	4100	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2R	48.6	O2IM	328	114	6770	34x7	34x7D
†**Autocar HS**	3-3½	4600	Own	L	4	4½x5½	350.0	32.4	45@1450	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2R	54.3	O2IM	516	114	7600	40x8	40x8D
†**Autocar SHS**	3-3½	4800	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Gra	DR	Own	4	Own	2R	54.3	O2IM-T	516	114	8100	40x8	40x8D
Autocar N	3-3½	4600	Own	L	6	4¼x4¾	404.0	43.4	92@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2R	41.2	OL4IHV-T	574	174	7990	20x9.75	20x9.75D
Autocar TFA	3½-5	6100	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	12	Own	2R	101.3	LO4IDV	602	192	9300	20x10.50	20x10.50D
Autocar C	3½-5	5900	Own	L	6	4½x4¾	453.0	48.6	101@2400	G	Own	Long	Spic	Ross	Str	Vac	DR	Own	4	Own	2R	51.7	O4IMV-T	516	172	9500	24x10.50	24x10.50D
Autocar FE	7½	11000	Ster	L	6	5¼x6	780.0	66.2	156@1800	G	G & O	Br-L	Spic	Ross	Zen	P	NE	Br-L	12	Wis	2R	89.2	W4IA-T	674	180	12300	24x10.50	24x10.50D
***Autocar GE**	10	12500	Ster	L	6	5¼x6	780.0	66.2	156@1800	G	G & O	Br-L	Spic	Ross	Zen	P	NE	Br-L	12	Tim	Wo	82.2	W6IA-T	720	198	16300	20x9.75	20x9.75D
Brockway 80 C	* 9560	1215	Con	L	6	3¼x4	214.7	27.3	71@3200	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Tim	Sp	36.2	CB4IM	248	149	4075	20x6.00	20x6.00D
Brockway 90 C	*11500	1525	Con	L	6	3⅜x4⅝	248.2	27.3	70@3200	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Tim	Sp	37.4	CB4IM	280	149	4355	20x6.50	20x6.50D
Brockway 92 C	*12500	1800	Con	L	6	3⅜x4⅝	248.2	27.3	70@3200	C	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Tim	Sp	37.4	CB4IM	280	149	4450	32x6.00	32x6.00D
Brockway 120 C	*15000	1990	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Tim	Sp	38.5	L4IH	353	156	5500	32x6	32x6D
Brockway 140 C	*17500	2495	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	43.5	L4IHV	386	156	6100	32x6	32x6D
Brockway 141 C	*19500	2935	Con	H	6	4 x4⅛	311.0	38.4	73@2400	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	46.2	L4IHV	380	170	6500	32x6	32x6D
Brockway 170 C	*19500	3160	Con	H	6	4½x4¾	380.9	40.8	89@2200	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	46.6	L4IHV	380	170	7100	32x6	32x6D
Brockway 175 C	*19500	3660	Con	H	6	4⅜x4¾	427.5	45.9	100@2200	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Ful	5	Wis	2R	46.6	L4IHV	380	170	7200	34x7	34x7D
Brockway 195 C	*22000	3820	Con	H	6	4½x4¾	380.9	40.8	89@2200	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	52.4	L4IHV	471	170	8100	34x7	34x7D
Brockway 220 C	*25000	4560	Con	H	6	4⅜x4¾	427.5	45.9	100@2200	C	G & O	Br-L	Spic	Ross	Zen	P	*Aut	Br-L	4	Wis	2R	50.7	L4IHV	546	170	8675	36x8	36x8D
Brockway 260 C	*28000	5850	Con	H	6	4½x5¼	501.0	48.6	120@2200	C	G & O	Ful	Spic	Ross	Zen	P	*Aut	Ful	4	Wis	2R	50.7	L4IHV	546	212	9000	22x10.50	22x10.50D
Chevrolet	½	345	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	3	Own	Sp	13.6	O4IM	101	109	*1880	19x4.75	19x4.75
Chevrolet	1½	520	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	——	—	131	2703	30x5	32x6
Chevrolet	1½	575	Own	H	6	3⅛x3¾	194.0	26.3	50@2600	G	Har	Own	Own	Own	Car	P	DR	Own	4	Own	Sp	33.4	O4IM	170	157	3015	30x5	30x5D
Diamond T 216 B	1½	795	Her	L	6	3⅜x4¼	228.0	27.3	56@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	—	L4IH	252	135⅛	3260	20x6.50B	20x6.50B
Diamond T 316	2	1195	Her	L	6	3⅜x4¼	263.0	29.4	65@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	W-G	4	Cla	Sp	—	L4IH	350	155	4400	20x6.50B	20x6.50DB
Diamond T 303 F	2-2½	1795	Her	L	6	3¾x4½	298.0	33.7	67@2400	G	G & O	Borg	Spic	Ross	Zen	P	Aut	Cov	4	Cla	Sp	—	L4IHV-T	350	159¾	5100	20x7.00B	20x7.00DB
Diamond T 551 B	2½-3	2395	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Tim	Sp	—	L4IHV-T	408	168	6000	20x7.50B	20x7.50DB
Diamond T 303 F B	2-2½	2425	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	4	Cla	Sp	—	L4IHV	408	199	6100	20x7.50	20x7.50DB
Diamond T 504 A	3	2650	Her	L	6	4 x4½	339.0	38.4	74@2400	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	4	Wis	2 R	—	L4IHV-T	408	176½	6400	20x8.25B	20x8.25DB
Diamond T 506 A	3	2950	Her	L	6	4¼x4½	383.0	43.3	85@2200	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	5	Wis	2 R	—	L4IHV-T	408	184	6400	20x8.25B	20x8.25DB
Diamond T 603	3-4	3395	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	—	L4IHV-T	499	169	7500	20x9.00B	20x9.00DB
Diamond T 606 B	3-4	3695	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	G & O	Cov	Spic	Ross	Zen	P	L-N	Cov	5	Wis	2 R	—	L4IHV-T	499	187½	7500	20x9.00B	20x9.00DB
Diamond T 750	4-5	4925	Her	L	6	4⅝x5¼	529.0	51.4	114@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Cov	5	Wis	2 R	—	W4IA	552	178	9300	22x9.75B	22x9.78DB
***Diamond T 801**	4	4140	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	G & O	Cov	Spic	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W4IA-T	238	190	8300	26x8P	36x8P
***Diamond T 1201**	6	5600	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	G & O	Cov	SpicBlo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W4IA-T	238	190	11000	34x7P	34x7DP
***Diamond T 1602**	8	6400	Her	L	6	4⅝x5¼	529.0	51.3	114@2400	G	G & O	Cov	SpicBlo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W4IA-T	238	190	11700	36x8P	36x8DP
***Diamond T 1603**	8	7500	Wak	L	6	5 x5¼	677.4	60.0	127@2000	G	G & O	Br-L	SpicBlo	Ross	Zen	P	Aut	Br-L	7	Tim	Wo	—	W4IA-T	238	194	12500	36x8P	36x8D
Dodge Bros. UF 10	½	375	Own	L	4	3⅜x4¾	196.0	21.0	48@2800	G	Fed	Borg	Un	Own	Car	P	DR	Own	3	Own	Sp	12.8	O4IH	121	109	1925	19x5.00	19x5.00
Dodge Bros. F 10	½	445	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Un	Own	Car	P	DR	Own	3	Own	Sp	12.8	O4IH	121	109	1975	19x5.25	19x5.25
Dodge Bros. U 1	¾	490	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Car	P	DR	Own	3	Own	Sp	19.2	O4IH	189	124	2260	20x6.00	20x6.00
Dodge Bros. DA 1	¾	595	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	C	Fed	Borg	Spic	Han	Zen	P	DR	Own	3	Own	Sp	19.2	O4IH	189	124	2360	20x6.00	20x6.00
Dodge Bros. U 1	1	495	Own	L	4	3⅜x4¼	196.0	21.0	45@2800	G	Fed	Borg	Spic	Han	Car	P	DR	Own	4	Own	Sp	36.1	O4IH	206	133	2590	20x6.00	32x6
Dodge Bros. DA 1	1	595	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	C	Fed	Borg	Spic	Han	Zen	P	DR	Own	4	Own	Sp	33.4	O4IH	206	133	2690	20x6.00	32x6
Dodge Bros. UG 30	1½	525	Own	L	4	3⅜x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	5	Own	Sp	36.9	O4IH	176	131	2490	20x6.00	32x6
Dodge Bros. UG 31	1½	550	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	Own	Car	P	DR	Own	5	Own	Sp	36.1	O4IH	176	131	2640	20x6.00	36x6
Dodge Bros. G 30	1½	585	Own	L	6	3¼x4¼	211.5	25.3	60@3100	—	—	—	—	—	—	P	—	—	5	—	—	—	4HI	—	131	2560	20x6.00	32x6
Dodge Bros. UF 30	1½	595	Own	L	4	3⅜x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	W-G	Car	P	—	—	5	Own	Sp	37.1	O4IH	187	136	2581	20x6.00	32x6
Dodge Bros. G 31	1½	610	Own	L	6	3¼x4½	211.5	25.3	60@3100	—	—	—	—	—	—	P	—	—	4	—	—	—	4HI	—	157	2710	20x6.00	32x6
Dodge Bros. UF 31	1½	670	Own	L	4	3⅝x4¾	196.0	21.0	48@2800	G	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	O4IH	229	165	2757	20x6.00	32x6
Dodge Bros. F 30	1½	695	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Cle	W-G	Car	P	—	—	4	Own	Sp	37.1	O4IH	187	136	2631	20x6.00	32x6
Dodge Bros. F 31	1½	770	Own	L	6	3¼x4¼	211.5	25.3	66@3200	C	Fed	Borg	Cle	W-G	Car	P	DR	Own	4	Own	Sp	37.1	O4IH	229	165	2807	20x6.00	32x6
Dodge Bros. F 35	1½	1425	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	C	Fed	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	O4IH	305	140	3780	20x6.00	20x6.00D
Dodge Bros. F 36	1½	1485	Own	L	6	3⅜x3⅞	208.0	27.3	63@3200	C	Fed	Borg	Cle	Han	Zen	P	DR	Own	4	Own	Sp	41.4	O4IH	305	165	3972	20x6.00	20x6.00D
Dodge Bros. G 43	2	795	Own	L	6	3¼x4¾	217.7	25.3	73@3200	—	—	—	—	—	—	P	DR	Own	4	—	Sp	—	4HI	229	136	3345	20x7.00	20x7.00D
Dodge Bros. G 44	2	825	Own	L	6	3¼x4⅝	217.7	25.3	73@3200	—	—	—	—	—	—	P	DR	Own	4	—	Sp	—	4HI	229	165	3465	20x7.00	20x7.00D
***Dodge Bros. F 40**	2	1995	Own	L	6	3⅝x3	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	O4IH-T	350	150	5173	20x6.50	20x6.50D
***Dodge Bros. F 41**	2	2085	Own	L	6	3⅝x3	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	43.7	O4IH-T	350	165	5211	20x6.50	20x6.50D
Dodge Bros. F 42	2	2180	Own	L	6	3⅝x3	309.6	31.5	75@3200	C	Fed	Borg	Cle	Own	Car	P	DR	Own	5	Own	Sp	50.0	O4IH-T	229	136	5311	20x7.00	20x7.00D
Dodge Bros.	3	1515	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	O4IH	382	135	4235	32x6	32x6D
Dodge Bros.	3	1565	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Long	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	O4IH	382	165	4520	32x6	32x6D
Dodge Bros.	3	1615	Own	L	6	3⅜x4½	241.0	27.3	78@3000	C	Fed	Borg	Un	Han	Zen	Vac	NE	Own	4	Own	Sp	46.3	O4IH	382	185	4715	32x6	32x6D
Dodge Bros. F 60	3	2645	Own	L	6	3⅝x3	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	2 R	56.6	O4IH-T	416	146	5543	32x6	32x6D
***Dodge Bros. F 61**	3	2575	Own	L	6	3⅝x3	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	O4IH-T	416	170	5789	32x6	32x6D
***Dodge Bros. F 62**	3	2695	Own	L	6	3⅝x3	309.6	31.5	96@3000	G	Long	Borg	Cle	Sag	DL	P	DR	Own	4	Own	Sp	48.8	O4IH-T	416	195	5901	32x6	32x6D
Dodge Bros. G 80	4	5250	Own	L	8	3½x5	384.8	39.2	120@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	62.7	B4IA-T	650	146	7640	20x9.75	20x9.75D
Dodge Bros. G 81	4	5285	Own	L	8	3½x5	384.8	39.2	120@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	69.6	B4IA-T	650	170	7840	20x9.75	20x9.75D
Dodge Bros. G 82	4	5350	Own	L	8	3½x5	384.8	39.2	120@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	69.6	B4IA-T	650	195	8040	20x9.75	20x9.75D
Dodge Bros. G 83	4	5415	Own	L	8	3½x5	384.8	39.2	120@3000	G	Long	Borg	Cle	Sag	Str	P	DR	Own	5	Own	Sp	69.6	B4IA-T	650	220	8400	20x9.75	20x9.75D
Essex Com.	¾	435	Own	L	6	2¾x4½	163.0	18.2	55@3300	C	Har	Own	Spic	Gem	Mar	Vac	Aut	Own	3	Own	Sp	5.40	4M	—	110½	1970	20x5	20x5.50
Federal D 3	*1½	670	Con	L	4	3⅞x4¼	200.5	24.0	50@2700	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	377	130	3225	20x6.00	32x6
Federal E 3	*1½	695	Con	L	6	3⅜x4	215.0	27.3	72@3400	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L4IH	377	130	3225	20x6.00	32x6
Federal F 7	*1¾	1325	Con	L	6	3⅜x4⅝	248.2	27.3	64@2600	C	Long	Borg	Pet	Gem	Zen	P	DR	Own	4	Tim	Sp	29.2	L4IH	413	132	3765	30x5	30x5D
Federal F 8	*1¾-2	1425	Con	L	6	3⅜x4⅝	248.2	27.3	64@2600	C	Long	Borg	Pet	Gem	Zen	P	DR	Own	4	Tim	Sp	34.0	L4IH	438	132	3865	30x5	30x5D
Federal A 6	*2	1695	Con	L	6	3⅜x4⅝	248.2	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Cla	Sp	38.5	L4IH	450	151	4580	32x6	32x6D
Federal A 6 T	*2½	1995	Con	L	6	3⅜x4⅝	248.2	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Sp	47.1	L4IHV	659	151	5110	32x6	32x6D
Federal A 6 T W	*2½	2130	Con	L	6	3⅜x4⅝	248.2	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Sp	52.9	L4IHV	659	151	5110	32x6	32x6D
Federal T 3 W	*2½	1595	Wau	L	4	4 x5	251.0	25.6	50@2000	G	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Wo	36.3	L4IH	575	148	5110	32x6	36x8
Federal T 8 W F	*2½	1795	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Tim	Wo	38.8	L4IHV	659	148	5400	32x6	32x6D
***Federal D 2 S W**	*2½-3	1050	Con	L	4	3⅞x4¼	200.5	24.0	50@2700	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	140	3925	20x6.00	32x6
***Federal E 2 S W**	*2½-3	1150	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	145	3975	20x6.00	32x6
***Federal D 2 D**	*2½-3	1350	Con	L	4	3⅞x4¼	200.5	24.0	50@2700	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	140	4235	20x6.00	32x6
***Federal E 2 D**	*2½-3	1450	Con	L	6	3⅜x4	215.0	27.3	60@2600	C	Long	Borg	Cle	Gem	Zen	P	DR	W-G	4	Cla	Sp	40.8	L6IH	566	145	4310	20x6.00	32x6
Federal T 10 B	*2½-3	2550	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	44.5	L4IHV	659	165	6550	34x7	34x7D
Federal T 10 W	*2½-3	2685	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	Sp	44.0	L4IHV	659	165	6550	34x7	34x7D
Federal T 10 D R	*2½-3	2685	Con	H	6	4 x4⅛	311.0	38.4	75@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Own	4	Tim	2R	45.6	L4IHV	659	165	6550	34x7	34x7D
Federal U 6	*3½-4	3860	Con	H	6	4½x4¾	381.0	40.8	85@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	Wo	64.6	L4IHV	767	165	7420	36x8	36x8D
Federal U 6 D R	*3½-4	3860	Con	H	6	4½x4¾	381.0	40.8	85@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2R	69.6	L4IHV	767	165	7420	36x8	36x8D
***Federal A 6 S W**	*4	2195	Con	L	6	3⅜x4⅝	248.0	27.3	64@2600	C	Long	Borg	Pet	Ross	Zen	Vac	DR	Own	4	Cla	Sp	38.5	L6IHV	675	164	5620	32x6	32x6D
Federal C 7	*5-6	4485	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Long	Borg	Pet	Han	Zen	P	DR	Br-L	7	Tim	2R	75.2	L4IHV	866	195	9550	20x9.75	20x9.75D
Federal C 7 W	*5-6	4485	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Long	Borg	Pet	Han	Zen	P	DR	Br-L	7	Tim	W	78.0	L4IHV	866	195	9550	20x9.75	20x9.75D
Federal C 8	*5-6	4855	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Long	Borg	Pet	Han	Zen	P	DR	Br-L	7	Tim	2R	75.2	L4IA	921	195	9650	20x9.75	20x9.75D
Federal C 8 W	*5-6	4895	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Long	Borg	Pet	Han	Zen	P	DR	Br-L	7	Tim	Wo	78.0	L4IA	921	195	9650	20x9.75	20x9.75D
Federal X 8	*7½	4335	Con	L	4	5 x6	471.0	40.0	61@1350	G	Long	Borg	Pet	Gem	Zen	Vac	AB	Br-L	7	Tim	Wo	111.0	T21MV	603	162	9750	36x6S	40x14S
Federal X 8 D R	*7½	4335	Con	L	4	5 x6	471.0	40.0	61@1350	G	Long	Borg	Pet	Gem	Zen	Vac	AB	Br-L	7	Tim	2R	106.0	T21MV	603	162	9750	36x6S	40x14S
Federal X 8 R	*7½	4735	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	Wo	111.0	T21MV	462	162	10475	40x8	40x8D
Federal X 8 R D R	*7½	4735	Con	H	6	4⅜x4¾	428.4	45.9	100@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	2R	106.0	T21MV	462	162	10475	40x8	40x8D
***Federal T 10 SW**	8	3895	Con	H	6	4 x4½	339.0	38.4	80@2200	C	Long	Borg	Pet	Ross	Zen	P	DR	Br-L	7	Tim	Sp	74.1	L6IHV	986	188	9600	34x7	34x7D
Ford	½-¾	320	Own	L	4	3⅞x4¼	200.0	—	50@2800	G	Own	Long	Spic	Gem	Zen	Gra	Own	Own	4	Own	Sp	——	——	—	106	——	20x6.00B	20x6.00DB
Ford	1½	470	Own	L	4	3⅞x4¼	200.0	—	50@2800	G	Own	Long	Spic	Gem	Zen	Gra	Own	Own	4	Own	Sp	——	——	—	131	——	20x6.00B	20x6.00DB
Ford	1½	500	Own	L	4	3⅞x4¼	200.0	—	50@2800	G	Own	Long	Spic	Gem	Zen	Gra	Own	Own	4	Own	Sp	——	——	—	157	——	20x6.00B	20x6.00DB
General Motors T-15	*6500	645	Own	L	6	3⅛x3⅞	200.3	26.3	60@3000	C	Long	Own	Mec	Sag	Mar	P	DR	Own	3	Own	Sp	16.1	B4IM	211	130	2625	20x5.50B	20x5.50B
General Motors T-18	*8200	595	Own	H	6	3⅛x3⅞	200.3	26.3	66@3200	C	Long	Own	Own	Sag	Mar	P	DR	Own	4	Own	Sp	35.7	O4IM	175	131	2800	30x5P	32x6P
General Motors T-25	*9000	1200	Buick	H	6	3⅛x4⅝	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Sp	29.6	B4IM	239	130	3375	20x6.00B	20x7.50B
General Motors T-19	*10000	745	Own	L	6	3⅛x3⅞	200.3	26.3	66@3200	C	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Sp	40.7	B4IM	290	140	3110	20x5.50B	32x6P
General Motors T-26	*11000	1210	Own	H	6	3⅛x4⅝	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Sp	35.7	B4IM	290	130	3685	20x6.50B	20x8.25B
General Motors T-30	*12500	1545	Buick	H	6	3⅛x4⅝	257.5	28.3	76@2500	G	Long	Own	Spic	Sag	Mar	P	DR	Own	4	Own	Sp	28.6	B4IM	288	141	4490	30x5P	30x5DP
General Motors T-31	14000	1695	Own	H	6	3⅛x4⅝	257.5

Major Specifications and Mechanical Details of 1932 Commercial Cars

LEADING MAKES NATIONALLY DISTRIBUTED

(Continued from Page 13)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Electr'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Rear Axle Type	Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brake Lining	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Standard Tire Sizes Rear
Indiana 17 DR	3	2675	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	38.6	L4IHV	398	170	7300	20x8.25	20x8.25D
Indiana 17 W	2½	2675	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	38.1	L4IHV	398	170	7000	20x8.25	20x8.25D
Indiana 19 DR	3½	3400	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	52.3	L4IHV	439	170	8100	20x9.00	20x9.00D
Indiana 17 SBT 250	4	3250	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Sp	37.8	L4IHV	625	188	8200	34x7	34x7D
*Indiana 17 SW 250	4	3475	Her	L	6	4⅜x4¾	428.4	45.9	94@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Tim	Wo	38.1	L4IHV	625	188	8500	34x7	34x7D
Indiana 43 DR	4	4300	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	50.7	L4IHV	546	170	8500	20x9.75	20x9.75D
Indiana 45 DR	5	4800	Her	L	6	4⅝x5¼	529.0	51.3	115@2200	G	Yo	Br-L	Spic	Ross	Str	P	Aut	Br-L	4	Wis	2R	45.4	L4IHV	546	170	8700	20x9.75	20x9.75D
International A 1	¾	615	Wak	L	4	3⅜x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	BE4IM	212	136	2930	5.50x20	5.50x20
International A 2	1½	615	Wak	L	4	3⅜x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	39.5	BE4IM	313	136	*2935	6.00x20	6.00x20
International A 2	1½	665	Wak	L	4	3⅜x4½	186.0	21.0	39@2400	G	Mod	Mec	Mec	Ross	Zen	Vac	DR	Mec	4	Own	Sp	47.3	BE4IM	212	136	2960	6.00x20	6.00x20
International A L 3	1½	1450	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Own	Mec	Ross	Zen	Vac	DR	W-G	4	Own	Sp	42.9	B4IM	295	133	4012	20x6.00	20x6.00D
International A 3	1½	795	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Rock	Mec	Ross	Zen	P	DR	W-G	4	Own	Sp	33.8	BE4IM	287	136	3500	6.00x20	6.00x20
International A 3½	1½	1250	Lyc	L	6	3¼x4½	224.0	25.3	54@2700	G	Mod	Rock	Mec	Ross	Zen	P	DR	W-G	4	Own	Sp	34.9	BE4IM	302	136	3700	6.00x20	6.00x20D
International A 4	2	1750	Own	H	6	3⅜x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	47.8	BE4IH*	378	145	5221	32x6	32x6D
International W 1	2½	3850	Hall	H	4	4¼x5½	312.0	28.9	59@3000	G	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2R	60.5	BE4IM	710	148	8300	36x8S	36x8S
International A 5	3	2350	Own	H	6	3⅜x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	52.6	BE4IM*	430	156	6120	34x7	34x7D
International A 6	3	2675	Own	H	5	3⅜x4½	279.0	31.5	67@2600	G	Mod	Own	Mec	Ross	Zen	Vac	DR	Own	5	Own	Sp	52.5	BE4IM*	430	156	6120	34x7	34x7D
International W 2	3½	4850	Hall	H	4	4¾x5½	390.0	36.1	69@2000	G	Own	Own	Own	Own	Zen	Vac	RB	Own	5	Own	2R	70.5	BE4IM	794	160	10125	36x6S	40x12S
International A 7	5	6200	Own	H	6	4½x5½	525.0	48.6	117@2200	G	Mod	Rock	Mec	Ross	*Zen	P	DR	Own	5	Own	2 R	52.3	BO4IM-T	730	123	11250	9.75x20	9.75x20D
International A 8	5	6300	Own	H	6	5 x5½	650.0	60.0	136@2100	G	Mod	Rock	Mec	Ross	*Zen	P	DR	Own	5	Own	2 R	52.3	BO4IM-T	730	123	11250	9.75x20	9.75x20D
La France Rep. A 1	* 6000	795	Lyc	L	6	3 x4¾	201.5	21.5	60@2500	G	G&O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	36.1	L4IH	378	132	3000	20x5.50	32x6
La France Rep. C 1	* 7500	1295	Lyc	L	6	3¼x4½	224.0	25.4	61@2750	G	G&O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	35.8	L4IH	413	144	3300	20x6.00	32x6
La France Rep. D 1	* 9000	1595	Lyc	L	6	3¼x4½	224.0	25.4	61@2750	G	G&O	Borg	Spic	Han	Zen	Vac	Aut	Ful	4	Tim	Sp	37.9	L4IH	448	144	3725	30x5	30x5D
La France Rep. C 2	*10000	995	Lyc	L	6	3¼x4½	224.0	25.3	61@2800	G	Per	Borg	Spic	Han	Zen	P	Aut	Ful	4	Tim	Sp	35.9	L4IH	—	150	——	20x6.00B	20x6.00DB
La France Rep. D 2	*11500	1295	Lyc	L	6	3⅜x4½	242.0	27.3	65@2800	G	Per	Borg	Spic	Han	Zen	P	Aut	Ful	4	Tim	Sp	37.9	L4IH	—	163	——	20x6.00B	20x6.00DB
La France Rep. E 1	*13000	1985	Bud	L	6	3½x4½	260.0	29.5	69@2600	G	Per	Borg	Spic	Ross	Zen	Vac	Aut	Ful	4	Tim	Sp	47.0	L4IHV	578	163	5000	20x7.50	20x7.50D
La France Rep. F 3	*15000	2395	Lyc	L	6	3¾x4½	299.0	33.7	80@2500	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Tim	Sp	50.6	L4IHV-T	656	174	5625	34x7	34x7D
La France Rep. H 2	*16000	2985	Lyc	L	6	3⅞x5	354.0	36.0	85@2300	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Wis	2R	41.6	L4IHV	658	174	6370	34x7	34x7D
La France Rep. H 3	*18000	3395	Bud	L	6	4⅛x4¾	393.0	42.1	94@2400	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Tim	2R	54.0	L4IHV-T	768	179	7450	20x9.75B	20x9.75DB
La France Rep. M 2	*20000	4000	Wak	L	6	4⅜x5½	462.0	46.0	97@2000	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	5	Wis	2R	51.0	L4IHV	768	174	7500	36x8	36x8D
La France Rep. M 3	*22000	4750	Wak	L	6	4⅜x5½	462.0	46.0	97@2000	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	5	Tim	3R	62.5	L4IHV-T	768	191	8300	20x10.50B	20x10.50DB
La France Rep. 35-2	*24000	5600	Wak	L	6	4½x5¾	549.0	48.6	98@1850	G	Own	Ful	Spic	Ross	Zen	P	Aut	Ful	4	Wis	2R	45.4	L4IHV	870	174	9250	38x9	38x9D
La France Rep. 35-3	*28000	6400	Wak	L	6	4⅝x5½	517.0	51.0	100@1800	G	Per	Ful	Spic	Ross	Zen	P	Aut	Ful	12	Tim	3R	111.5	W4IA-T	1054	191	10300	24x10.50B	24x10.50DB
La France Rep. Q 4	*30000	8500	Own	H	12	4 x5	754.0	76.7	240@2900	C	Own	Long	Blo	Ross	Zen	P	DR	Br-L	4	Tim	2R	Opt	W4IA	—	Opt	12750	24x10.50B	24x10.50DB
La France Rep. Q 6	*40000	11000	Own	H	12	4 x5	754.0	76.7	240@2900	C	Own	Long	Blo	Ross	Zen	P	DR	Br-L	4	Tim	4R	Opt	W6IA-T	—	Opt	14900	20x10.50B	20x10.50DB
††Mack B L	——	2500	Own	L	6	3¼x5	248.9	25.3	63@2800	G	Own	Own	Spic	Gem	Str	Vac	NE	Own	4	Tim	Sp	Opt	L4IH	302	148	*4450	22x9.75B	22x9.75B
††Mack B G	——	3000	Own	L	6	3⅜x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Sp	Opt	O4IV	415	156	5200	20x6.00B	20x6.00DB
††Mack A B	——	4350	Own	L	4	4¼x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146½	7100	32x6	32x6D
Mack A B	——	4000	Own	L	4	4¼x5	283.7	28.9	60@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6850	34x7	34x7D
Mack A B	——	4500	Own	L	6	3⅜x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	471	146½	7050	34x7	34x7D
††Mack A B	——	4150	Own	L	6	3⅜x5	309.6	31.5	75@2600	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	471	146½	6850	34x7	34x7D
††Mack B C	——	5250	Own	L	6	4 x5½	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	2 R	Opt	O4IV	471	154	8350	34x7	34x7D
††Mack B C	——	5500	Own	L	6	4 x5½	417.7	38.4	100@2300	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	610	154	8500	36x8	36x8D
††Mack B J	——	6150	Own	L	6	4½x5½	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	2 R	Opt	O4IV	567	168½	10100	36x8	36x8D
††Mack A K	——	5150	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O4IV	492	162	9800	36x8	36x8D
††Mack A K	——	5250	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O4IV	492	163	9700	36x8S	36x8DS
††Mack A C	——	4950	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	OJXM	194	156	9500	36x8S	36x8DS
††Mack A K	——	6450	Own	L	6	4½x5½	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	NE	Own	4	Own	2 R	Opt	O4IV	492	174	10950	36x8S	40x8DS
††Mack A C	——	5500	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	OJXM	194	156	10100	22x10.50B	22x10.50DB
††Mack A C	——	6550	Own	L	6	4½x5½	525.5	48.6	126@2200	G	Own	Own	Spic	Han	Str	Vac	NE	Own	4	Own	Ch	Opt	O4IV	492	174	11950	36x6S	40x6DS
††Mack A C	——	6000	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	OJXM	194	156	10450	24x10.50B	24x10.50DB
††Mack A P	——	9500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O2IV	287	191	12200	36x7S	40x7DS
††Mack A K 6—6 wheel	——	9500	Own	L	6	4½x5½	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	2 R	Opt	O6IA	574	152-52	16300	36x7S	40x8DS
††Mack A C 6 wheel	——	7650	Own	L	4	5 x6	471.2	40.0	77@1800	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	ORIV	574	125-52	13800	9.75x22B	9.75x22DB
††Mack A C 6—6 wheel	——	9000	Own	L	6	4½x5½	525.2	48.6	126@2200	G	Own	Own	Spic	Own	Str	Vac	NE	Own	4	Own	Ch	Opt	O6IA	574	145-52	14950	36x8S	40x12S
Mack A P 6 wheel	——	11500	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	Ch	Opt	O6IA	574	145-52	15250	40x8	40x8D
††Mack A P 6 wheel	——	12000	Own	L	6	5 x6	706.5	60.0	150@2000	G	Own	Own	Spic	Own	Str	Gra	NE	Own	4	Own	2 R	Opt	O6IA	574	145-52	——	40x8	40x8D
Pierce-Arrow 18S	2	3150	Own	L	8	3½x5	385.0	39.2	125@2800	C	Long	Long	Cle	Han	Str	P	DR	Br-L	4	Tim	Sp	33.5	B4IM-T	399	160	6000	20x8.25B	20x8.25DB
Pierce-Arrow 12T	2-2½	2950	Her	L	6	4½x4½	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cla	4	Tim	Sp	34.3	B4IM	399	150	5625	20x7.50B	20x7.50DB
Pierce-Arrow 14T	2½	3350	Her	L	6	3¾x4½	298.0	33.7	70@2600	G	Long	Long	Cle	Han	Zen	P	DR	Cla	4	Tim	Sp	40.0	B4IM	399	150	5725	20x8.25B	20x8.25DB
Pierce-Arrow 15T	2½	3100	Her	L	6	4⅛x4½	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Sp	34.4	B4IM	399	180	5800	20x8.25B	20x8.25DB
Pierce-Arrow 18W	3-4	4100	Her	L	5	4⅛x4½	361.0	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	41.9	B4IA-T	473	150	6660	20x9.00B	20x9.00DB
Pierce-Arrow 18R	3-4	4500	Her	L	6	4⅜x4¾	428.0	46.0	94@2200	G	Long	Long	Cle	Han	Zen	P	DR	Br-L	4	Tim	Wo	38.6	B4IA	473	150	6860	20x9.00B	20x9.00DB
Pierce-Arrow 21R	3½	4700	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Br-L	4	Tim	Wo	36.0	B4IA	473	150	7050	20x9.75B	20x9.75DB
Pierce-Arrow 24X	4-5	5400	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	40.2	T4IA	618	150	9250	20x10.50B	20x10.50DB
Pierce-Arrow 24M	4-5	6450	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Tim	Wo	39.9	T4IA-T	618	150	10200	20x10.50B	20x10.50DB
Pierce-Arrow 28X	5½	6000	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	Wo	53.0	TO4IA	720	160	10675	24x10.50B	24x10.50DB
Pierce-Arrow 28M	5½	6900	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	52.5	TO4IA	720	160	11600	24x10.50B	24x10.50DB
Pierce-Arrow 28Y	5½	5850	Her	L	6	4⅝x4¾	479.0	51.3	104@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Own	Wo	53.0	TO4IA	720	160	10675	24x10.50B	24x10.50DB
Pierce-Arrow 34K	5½	——	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	42.0	TO4IA	720	170	11675	24x10.50B	40x8DS
Pierce-Arrow 75M	75000	8000	Her	L	8	5¼x6	779.0	66.1	150@1800	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Own	Wo	51.9	TO4IA	720	190	12750	24x10.50B	24x10.50DB
Pierce-Arrow 24T	*24000	3200	Her	L	6	4½x4½	36.10	40.3	77@2400	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Sp	48.1	B4IM	399	150	5725	20x8.25	20x8.25D
Pierce-Arrow 35R	*35000	4800	Her	L	6	4⅜x4¾	428.0	46.0	94@2200	G	Long	Long	Cle	Han	Zen	P	DR	Br-L	4	Tim	Wo	47.8	B4IA	473	150	7050	20x9.75	20x9.75D
Pierce-Arrow 45X	*45000	6200	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	57.2	T4IA	618	160	9300	20x10.50	20x10.50D
Pierce-Arrow 34L	*34000	——	Her	L	6	4½x5¼	501.0	48.6	110@2200	G	Long	Long	Cle	Han	Zen	P	DR	Cov	4	Tim	Wo	49.0	T6IA	1022	200	13200	20x9.75	20x9.75D
Pierce-Arrow 41K	*44000	——	Her	L	6	5¼x6	779.0	66.1	150@1800	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Tim	Wo	47.2	T6IA	1022	200	14500	20x10.50	20x10.50D
Pierce-Arrow 34K	*34000	——	Her	L	6	4¾x5¾	611.0	54.1	130@2000	G	Long	Long	Spic	Ross	Str	P	DR	Own	4	Tim	Wo	40.6	T6IA	1022	200	14200	20x9.75	20x9.75D
Reo 1 A	1½	625	Own	L	4	3⅛x4½	205.0	23.3	51@2500	G	Per	Long	Cle	Ross	Zen	P	DR	Cla	4	Cla	Sp	37.1	L4IH	230	136	2930	20x6.00	32x6
Reo 1 B	1½	725	Own	L	6	3⅜x4	214.7	27.3	61@3000	G	Per	Long	Cle	Ross	Zen	P	DR	Cla	4	Cla	Sp	33.6	L4IH	230	136	2970	20x6.00	32x6
Reo 1 C	1½	665	Own	L	4	3⅛x4½	205.0	23.3	51@2500	G	Per	Long	Cle	Ross	Zen	P	DR	Cla	4	Cla	Sp	37.1	L4IH	230	160	3030	20x6.00	32x6
Reo 1 B	1½	745	Own	L	6	3⅛x5	230.0	23.4	68@2800	C	Own	Long	Cle	Ross	Zen	P	DR	Cle	4	Own	Sp	34.8	L4IH	246	140	2970	20x6.00B	32x6
Reo 1 D	1½	765	Own	L	6	3⅜x4	214.7	27.3	61@3000	G	Per	Long	Cle	Ross	Zen	P	DR	Cla	4	Cla	Sp	37.1	L4IH	230	160	3060	20x6.00	32x6
Reo D F X	1½	1095	Own	L	6	3⅜x5	268.3	27.3	85@3200	C	Own	Long	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	34.1	L4IH	289	135	3200	20x6.00	20x6.00
Reo F A X	2	1295	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	Own	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	34.3	L4IH	289	137	3525	20x6.00	32x6
Reo F E X	2	1395	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	Own	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	34.3	L4IH	289	152	3200	20x6.00	32x6
Reo F F X	2	1395	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	Own	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	34.3	L4IH	289	156	3525	20x6.00	32x6
Reo F H X	2½	1595	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	37.7	L4IH	289	142	3750	32x6	32x6D
Reo F C X	2½	1645	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	37.7	L4IH	289	152	4165	32x6	32x6D
Reo F D X	2½	1745	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	37.7	L4IH	289	168	4075	32x6	32x6D
Reo G A	3	2035	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	40.5	L4IH-T	344	163	4625	32x6	32x6D
Reo G C	3	2140	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	40.5	L4IH-T	344	179	4850	32x6	32x6D
Reo G D	3	2085	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	78.1	L4IH-T	344	144	4650	32x6	32x6D
Reo G C S	3	2375	Own	L	6	3⅜x5	268.3	27.3	70@2800	C	McC	Br-L	Cle	Ross	Sch	Vac	DR	Own	4	Own	Sp	40.5	L4IH	344	210	5300	32x6	32x6D
Reo 4-H	4	2800	Own	L	6	4⅛x4¾	381.0	40.8	101@2600	G	McC	Long	Cle	Ross	Sch	P	DR	Own	4	Cla	Sp	42.4	L4IHV-T	390	150	6150	8.25x20	9.00x20B
Reo 4-J	4	2875	Own	L	6	4⅛x4¾	381.0	40.8	101@2600	G	McC	Long	Cle	Ross	Sch	P	DR	Own	4	Cla	Sp	42.4	L4IHV-T	390	170	6280	8.25x20	9.00x20B
Reo 4-K	4	2950	Own	L	6	4⅛x4¾	381.0	40.8	101@2600	G	McC	Long	Cle	Ross	Sch	P	DR	Own	4	Cla	Sp	42.4	L4IHV-T	390	190	6395	8.25x20	9.00x20B
Stewart 30	1	695	Lyc	L	4	3¾x4½	199.0	22.5	50@2600	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	257	130	*3158	20x6.50	20x6.50
Stewart 30 X	1	795	Lyc	L	6	3 x4¾	201.5	23.8	60@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	W-G	4	Cla	Sp	35.1	B4IM	257	130	3199	20x6.50	20x6.50
Stewart 42X	1½	795	Lyc	L	6	3¼x4½	224.0	25.3	62@2600	G	Fed	Borg	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	35.1	B4IM	257	134	3525	20x6.50	20x6.50
Stewart 40 X A	1½	995	Lyc	L	6	3¼x4½	224.0	25.3	62@2600	G	Fed	Borg	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	——	B4IM	257	145	3574	20x6.50	20x6.50
Stewart 43X	2	995	Lyc	L	6	3¼x4½	242.0	27.3	62@2800	G	Fed	Borg	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	35.1	B4	257	145	4375	20x6.50	20x6.50DB
Stewart 50X	2	1195	Lyc	L	6	3⅜x4½	242.0	27.3	65@2800	G	Fed	Borg	Spic	Ross	Zen	P	DR	W-G	4	Cla	Sp	35.1	B4IM	—	145	4165	20x6.50	20x6.50DB
Stewart 29 X S	2	1695	Lyc	L	6	3¾x4½	298.0	33.7	85@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	44.1	B4IM	307	145	5194	20x7.00	20x7.00D
Stewart 32 X	2½	1990	Lyc	L	6	3¾x4½	298.0	33.7	85@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	348	165	6552	20x7.00	20x7.00D
Stewart 58-8	2½	2390	Lyc	L	8	3⅜x4½	322.0	36.5	100@2800	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Cla	Sp	46.1	B4IM	348	170	6170	20x7.50	20x7.50DB
*Stewart 18 X	3	2690	Lyc	L	6	3⅞x5	310.0	36	85@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	4	Tim	Wo	48.1	B4IM	452	165	6245	20x7.50	20x7.50D
Stewart 48-8	3	2990	Lyc	L	8	3¾x4¾	420.0	45.0	130@2800	G	Fed	Br-L	Spic	Ross	Str	P	DR	Br-L	4	Cla	Sp	46.1	B4MV	348	170	6750	8.25x20B	8.25x20DB
Stewart 19 X	3½	3690	Lyc	L	6	3⅞x5	354.0	36.2	90@2750	G	Fed	Ful	Spic	Ross	Str	P	DR	Ful	12	Tim	Wo	105.1	B4IM	452	165	7474	20x9.00	20x9.00D
Stewart 38-8	3½	3990	Lyc	L	8	3¾x4¾	462.0	45.0	130@2800	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	B4IMV	452	170	7964	20x9.00	20x9.00D
Stewart 38-6	3½	3990	Wak	L	6	4⅜x5⅛	420.0	45.9	100@2000	G	Fed	Borg	Spic	Ross	Str	P	DR	Br-L	12	Tim	2R	105.1	B4IMV	452	170	7964	20x9.00	20x9.00D
Stewart 31 X	5	5190	Wak	L	6	4⅜x5⅛	516	51.2	110@2000	G	Mod	Br-L	Spic	Ross	Str	P	DR	Br-L	12	Tim	Wo	105.1	B4IMV	564	165	9885	20x9.75	20x9.75D
Stewart 27 X S	7	6190	Wak	L	6	4⅜x5⅛	516	51.2	110@2000	G	Mod	Br-L	Spic	Ross	Str

FEDERAL TRUCK EXTENDS SALES DRIVE TO CANADA

(Continued from Page 1)

report marked success. All truck prospects in each territory are brought together at these meetings to listen to the talk of the Federal executives on the merits of the line, with a pronounced emphasis on the six-wheelers. There are moving pictures to illustrate the points made, and, in addition, actual demonstrations are given.

Not the least interesting features of these meetings is the manner in which two of the newest Federal models are displayed at the demonstrations. A one and a half-tonner, the lowest priced Federal on the market, except for the four-cylinder model one and a half-tonner, priced at $670, is mounted on the three-tonner six-wheeler, priced at $1,050, with hydraulic brakes on all six wheels, which is driven to the meeting, unloaded and then both trucks are put through their paces for the edification of the prospects.

Federal is utilizing this same idea in another way. District managers making the rounds. Whenever demonstrations are staged, the smaller truck is unloaded from the six-wheeler and an opportunity is given prospective dealers or purchasers to drive the two models under various conditions of operation.

NEW WILLYS DEALER

Camden, N. J., May 19.—C. F. Pfeiffer Motors, Inc., 1388-90 Haddon Ave., has been appointed Willys-Overland and Willys-Knight dealer in Camden and vicinity. C. F. Pfeiffer is president and B. F. Miller, general manager.

TWO FEDERAL TRUCK models used in demonstrations at fleet owner meetings in various parts of country

OPERATES 250-TRUCK FLEET SUCCESSFULLY

(Continued from page 12)

power run at varying speeds, and finally by a full throttle run.

Between each of the runs an inspection is made of the interior of each cylinder to insure against scoring.

Complete overhauls are carried out about every 35,000 miles, or approximately once in six years. Since most of the running is done in a congested area, with many stops with the engine running, it is considered that the above figure is the equivalent of 50,000 to 55,000 engine road miles.

On heavy duty jobs, valves are ground about every 6,000 miles.

The machine shop, which is a part of the service station, contains only those machines which are essential.

A huge press is provided for the removal and installation of solid tires.

Spare parts carried consist approximately of 3,600 items and represent an investment of $30 per car, including replacement units such as spare engines and transmissions.

A separate department takes care of repairs and manufacture of tarpaulin covers. In addition, revenue is derived from this department through its making of sails.

No attempt is made to capitalize advertising value of a highly polished vehicle. This company is primarily engaged in merchandising transportation in a competitive market. Their clients recognize this fact. However, cleanliness is a factor which is observed and maintained by a power washing system. This provides a spray of water thermostatically controlled to 120 degrees F., under air pressure of ninety pounds per square inch, and water pressure boosted to sixty pounds per square inch.

Major Specifications and Mechanical Details of 1932 Commercial Cars

LEADING MAKES NATIONALLY DISTRIBUTED

(Continued from Page 14)

Make and Model	Capacity—Tons or Lbs.	Chassis Price	Engine	Valve Arr'g'm't	No. of Cyls.	Bore and Stroke	Piston Disp.	Tax H. P.	Max. Brake H. P. and Peak R. P. M.	Type Camshaft Drive	Radiator Make	Clutch Make	Universals Make	Steering Gear Make	Carburetor Make	Fuel Feed Type	Make Elect'l System	Make Transmission	No. Spds. For.	Rear Axle Make	Type	Final Drive	Final Gear Reduction	Type Service Brakes	Area Service Brake Lining	Standard Wheel Base	Chassis Wgt.	Standard Tire Sizes Front	Rear
White 621	*18000	4650	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp		41.4	OL4IHV	484	157	7700	20x9.00B	20x9.00DB
White 640	*20000	6100	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	Sp		33.9	O4IA	553	180	9350	20x9.00B	20x9.00DB
White 630	*20000	5000	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp		41.4	O4IHV	554	168	8500	20x9.00B	30x9.00DB
White 58	*22000	4400	Own	L	4	4¼x5¾	326.0	28.8	54@1600	G	Own	Own	Spic	Own	Zen	Vac	Eis	Own	4	Own	2R		49.7	OPXM	224	180	7797	36x8	36x8SD
White 630 A	*22000	5000	Own	H	6	4 x5¼	396.0	38.4	100@2100	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	Sp		41.4	L4IHV	553	168	8500	20x9.00B	20x9.00DB
White 641	*24000	6450	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R		46.9	O4IA	585	180	9700	20x9.75B	20x9.75DB
*White 630 SW200	*24000	6280	Own	H	6	4 x5¼	396.6	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Tim	Wo		44.2	OTIHV	514	193	10000	20x8.25B	20x8.25DB
White 631	*24000	5750	Own	H	6	4 x5¼	396.0	38.4	82@1800	C	Own	Own	Spic	Ross	Zen	P	DR	Own	4	Own	2R		56.9	O4IHV	585	168	9000	20x9.25B	20x9.25DB
*White 642 SW310	*34000	8045	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo		55.6	OTIA	588	198	12670	20x9.00B	20x9.00DB
White 58 SS	*30000	5300	Own	L	4	4¼x5¾	326.0	28.8	54@1600	G	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	Wo		77.6	OPXM	224	196	9300	24x10.50B	24x10.50DB
White 643	*32000	6950	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R		66.5	O4IA	623	180	10900	24x10.50B	24x10.50DB
White 642	*28000	6750	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Own	2R		66.5	O4IA	623	180	10600	24x9.75B	24x9.75DB
*White 643 SW410	*40000	8570	Own	H	6	4⅜x5¾	519.0	45.9	108@1800	C	Own	Own	Spic	Ross	Zen	P	L-N	Own	4	Tim	Wo		69.1	OTIA	588	198	14400	40x8	40x8D
Willys-Overland 6-C-113	½	415	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Own	Spic	Own	Til	P	Aut	Own	3	Own	Sp		12.4	B4IM	143	113	1923	20x5.50	32x6
Willys-Overland 6-C-131	1½	595	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Own	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp		40.8	B4IM	235	131	2625	20x5.50	32x6
Willys-Overland 6-C-157	1½	635	Own	L	6	3¼x3⅞	193.0	25.3	65@3400	C	Fed	Own	Spic	Own	Til	P	Aut	W-G	4	Cla	Sp		40.8	B4IM	235	157	2900	19x5.00	19.x5.00

GENERAL NOTATIONS

***†REFERENCE MARKS** apply to individual lines only and explanations are given under the subdivision for each company in the "SPECIAL NOTATIONS."

CAPACITIES given in this table are in tons or fractions of tons. *Shows maximum allowable gross weight in pounds.

ENGINE—Bud, Buda; Con, Continental; Her, Hercules; Lyc, Lycoming; Pont, Pontiac; Wak, Waukesha; Wis, Wisconsin; Hall, American Car & Foundry; Ster, Sterling Engine Co.

VALVE ARRANGEMENT—L, "L" head; H, in head; O, overhead; S, sleeve.

TYPE OF CAMSHAFT DRIVE—G, gear; C, chain.

RADIATOR MAKE—G&O, G & O Mfg. Co.; Per, Perfex Corp.; Long, Long Mfg. Co.; Har, Harrison Radiator Corp.; Fed, Fedders Mfg. Co.; McC, McCord Radiator & Mfg. Co.; Mod, Modine Mfg. Co.; Hex, Hexcel Radiator Co. Yo-Young.

CLUTCH MAKE—Jon, Jones Clutch & Gear Co.; Ful, Fuller & Sons Mfg. Co.; Borg, Borg & Beck Co.; Br-L, Brown Lipe Gear Co.; Rock, Rockford Drill & Machine Co.; Cov, Covert Gear Co.; Long, Long Mfg. Co.; Detr, Detroit Gear & Machine Co.; Mer, Merchant & Evans; Hel, Merchants & Evans.

UNIVERSALS MAKE — Spic, Spicer Mfg Co.; Blo, Blood Bros. Machine Co.; Sup, Superior Universal Products; Un, Universal Products Co.; Cle, Cleveland Steel Products Corp.; Pet, Peters; Opt, Optional; Mec, Mechanics Machine Co.

STEERING GEAR MAKE—Ross, Ross Gear & Tool Co.; Han, Hannum Mfg. Co.; Sag, Saginaw Steering Gear Co.; Gem, Gemmer Mfg. Co.; Col, Columbus Gear Pump Co.; W-G, Warner Gear Corp.

CARBURETOR—Car, Carter; Mar, Marvel; Sch, Wheeler-Schebler; Str, Stromberg; DL, Detoit Lubricator; Til, Tillotsen; Zen, Zenith-Detroit.

FUEL FEED—Gra, gravity; Vac, vacuum tank; P, fuel pump.

ELECTRICAL SYSTEM — AB, American-Bosch; Aut, Electric Auto-Lite; Eis, Eisemann; L-N, Leece-Neville; NE, North East; RB Robert Bosch; DR, Delco-Remy.

TRANSMISSION—Br-L, Brown-Lipe; Cov, Covert; Ful, Fuller; Mec, Mechanics Machine; Mun, Muncie; W-G, Warner Gear; Cot, Cotta Gear Co.; Cla, Clark Equipment Co.

REAR AXLE—Cla, Clark Equipment; Col, Columbia; Eat, Eaton; Pont, Pontiac; Sal, Salisbury; Tim, Timken; Wis, Wisconsin.

FINAL DRIVE—IG, internal gear; St, straight bevel; Sp, spiral bevel; Wo, worm; 2R, double reduction; Ch, chain; S-T, semi-transverse.

TYPE OF SERVICE BRAKES—

B4IM, Bendix, 4 wheel, internal mechanical; B4MV, Bendix, 4 wheel, mechanical, vacuum; B6IA, Bendix, 6 wheel, internal, air; B4IMV, Bendix, 4 wheel, internal, mechanical, vacuum; BO4IMV, Bendix, own, 4 wheel, internal, mechanical, vacuum; BrIA, Bendix, operating on 4 rear wheels, internal air; BW4IM, Bendix front, Wisconsin rear, 4 wheel, internal, mechanical; BE4IM, Bendix front, Eaton rear, 4 wheel, internal, mechanical; B4IH, Bendix, 4 wheel, internal, hydraulic.

CB4IM, Columbia, Bendix, 4 wheel, internal, mechanical; C4IM, Columbia, 4 wheel, internal, mechanical; K2IM, Clark, 2 wheel, internal, mechanical; CR4IA, Christensen-Relay, 4 wheel internal, air.

L4IHVA, Lockheed, 4 wheel, internal, hydraulic, vacuum, air; LO4ID, Lockheed, own, 4 wheel, internal, drive shaft; LO4IV, Lockheed, own, 4 wheel, internal, vacuum; LT4DV, Lockheed, Timken, 4 wheel, drive shaft, vacuum; L4IH, Lockheed, 4 wheel, internal, hydraulic; L4IHA, Lockheed, 4 wheel, internal, hydraulic, air; L4IHV, Lockheed, 4 wheel, internal, hydraulic, vacuum; LT4IHV, Lockheed, Timken, 4 wheel, internal, hydraulic, vacuum: LT4IVA, Lockheed, Timken, 4 wheel, internal, vacuum, air; L6IHV, Lockheed, 6 wheel, internal, hydraulic, vacuum; L6IH, Lockheed, 6 wheel, internal, hydraulic.

O2IM, Own, 2 wheel, internal, mechanical; O2IV, Own, 2 wheel, internal, vacuum; O4IA, Own, 4 wheel, internal, air; O4IH, Own, 4 wheel, internal, hydraulic; O4IHV, Own, 4 wheel internal, hydraulic, vacuum; O4IM, Own, 4 wheel, internal, mechanical; O4IV, Own, 4 wheel, internal, vacuum; O4M, Own, 4 wheel, mechanical; O2XM, Own, 2 wheel, external, mechanical; O4XM, Own, 4 wheel, external, mechanical; O6IA, Own, 6 wheel, internal, air; OJXM, Own, jack shaft, external, mechanical; OL4IHV, Own, Lockheed, 4 wheel, internal, hydraulic, vacuum; OPX, Own, propeller shaft, external; OPXM, Own, propeller shaft, external, mechanical; OPM, Own, propeller shaft, mechanical; ORIV, Own, rear wheels, internal, vacuum; OTIHV, Own, Timken, internal, hydraulic, vacuum.

S4IM, Steeldraulic, 4 wheel, internal, mechanical.

T4rIA, Timken, operating on 4 rear wheels, internal, air; T4IA, Timken, 4 wheel, internal, air; T6IA, Timken, 6 wheel, internal, air; T2IMV, Timken, 2 wheel, internal, mechanical, vacuum.

W4I, Westinghouse, 4 wheel, internal; W4IA, Westinghouse, 4 wheel, internal, air; W6IA, Westinghouse, 6 wheel, internal, air; 4IA, 4 wheel, internal, air; 4IH, 4 wheel, internal, hydraulic; 4M, 4 wheel, mechanical.

-T, Tru-stop. *Models on which Tru-stop is optional.

WHEEL BASES given are standard, but optional wheel bases are available in many cases.

***CHASSIS WEIGHT** according to Automotive Daily News formula, which is the chassis with gas, oil, water and spare tire, but without cab or other equipment.

TIRES—B, balloon; D, dual; S, solid; P, pneumatic.

SPECIAL NOTATIONS

AUTOCAR

†Engines in these models are located under the driver's seat.

*Six-wheeler.

Model R also available on 171 and 189 inches wheel base.

BROCKWAY

*Models equipped with twin ignition.

CHEVROLET

Utility model availale on 131-inch wheel base with chassis weight of 2,760 pounds and equipped with dual rear wheels.

DIAMOND T

*Six-wheelers.

Additional standard wheel bases available as follows:—

551	158	750	167, 192
504	166½	801	180½, 199¼
506	174	1200	174½, 180
603	157, 179	1606	174½, 180
606	177½	1601	184

DODGE

*Models F40, F41, F61 and F62 can be had with double drop frame.

FEDERAL

*Six-wheelers.

*Also rated in pounds of total allowable weight as follows:

D 3	8500	T 10 W	18,000
E 3	8,500	T 10 D R	18,000
F 7	10,000	U 6	21,000
F 8	11,500	U 6 D R	21,000
A 6	13,500	A 6 S W	18,500
A 6 T	15,000	C 7	24,000
A 6 T W	15,000	C 7 W	24,000
T 3 W	14,000	C 8	24,000
T 8 W F	15,000	C 8 W	24,000
D 2 S W	12,500	X 8	30,000
E 2 S W	12,500	X 8 D R	30,000
D 2 D	12,500	X 8 R	30,000
2 E D	12,500	X 8 R D R	30,000
T 10 E	18,000		

†Both the four and six cylinder are also offered in 157-inch wheel base at $1,145 and $1,345, respectively.

Model T 10 SW also available in 206 and 224 inch wheel bases.

GENERAL MOTORS TRUCK

*Capacity indicated is the Shraight Rating (combined weight of chassis body, equipment and pay load) for which each chassis is designed and guaranteed to satisfactorily operate under average conditions. The size of the tires used does not affect this Straight Rating, but to secure maximum tire mileage it is suggested that the total gross weight be limited to a "recommended gross weight" for each tire equipment based on tire capacity. Prices cover base chassis and vary with wheel base and tire combinations. The number of wheel base lengths, tire types, range of "recommended gross weights" and resulting pay load range (assuming nominal body allowance) for each model follows:—

Note: Models T-15 to T-61, inclusive, are available for export only as coach chassis.

Model	Wheel Bases	Tire Types	Range of "Rec. Gross Weights"	Pay Load Range
T-11	1	1	3800	½
T-15	3	10	4500- 6500	½-1½
T-18	..	..	7500- 8200	1½-2
T-19	3	..	7500-10000	1½-2½
T-25	3	17	6800- 9000	1½-2
T-26	4	..	8500-11000	2-3
T-30	3	15	10000-12500	2-3
T-31	4	..	11000-14000	2½-4
T-42	4	12	12000-16000	2½-4
T-44	4	12	12000-16000	3-4½
T-45	4	..	13500-16000	3-4½
T-51	4	..	16500-19000	4-5½
T-60	4	18	18500-22000	5-6½
T-61	4	..	19500-22000	5-6½
T-82	4	12	19000-24000	5-7
T-83	4	..	20000-24000	5-7
T-85	3	..	25000-30000	6-8
T-90	3	7	22000-28000	5-7½
T-95	3	..	30000-40000	7-11

Optional rear axle gear ratios available for all models except Model T-18. Double reduction axles available for Models T-45, T-51, T-60, T-61, T-82, T-83 and T-95.

GRAMM

Series	Straight Rating	Wheel Base		Pay Load Range
AX 4	8,000	157	1	to 1½ tons
AX 6	8,000	157	1	to 1½ tons
BX 4	10,000	157	1½	to 2 tons
BX 6	10,000	157	1½	to 2 tons
CX 4	12,000	157-180	2	to 3 tons
CX 6	12,000	157-180	2	to 3 tons
B	12,000	157-174	1¾	to 2½ tons
C	14,000	145-196	2	to 3 tons
D	17,000	145-196	2½	to 4 tons
E	20,000	145-224	3	to 4½ tons
EY	.....	.....	3	to 4 tons
G	24,000	165-235	4	to 6 tons
G 8	24,000	165-235	4	to 6 tons
GY	.....	.....	4	to 5 tons
GW	28,000	157-240	5	to 7½ tons
HY	.....	.....	5	to 6½ tons

†Both the four and six-cylinder are also offered in 157-inch wheel base at $1,145 and $1,345, respectively.

INDIANA

*Six-wheelers.

INTERNATIONAL

*Stromberg carburetor optional.

MACK

Other wheel bases furnished on all truck models.

On 6-wheel jobs 4 rear wheels driven by chains, foot brake on 4 rear wheels.

††Made also in tractor models.

PIERCE-ARROW

*Optional final drive on Models PW, PX, PY and PZ.

REO

Models DF, FA, FE and FP are available with dual wheels at additional cost.

*Model DF X can be had with 3 speed transmission and single tires for $895.

Model 1 D can be secured in 164 inch wheel base at $785.

STEWART

Models 30 and 30X can also be supplied in 120, 140 and 160-inch wheel base.

Models 40XA can also be supplied in 134, 145, 160 and 176-inch wheel base.

Model 29XS can be supplied in 135, 160, 176 and 190-inch wheel base.

*Models 18X and 32X can be supplied in 148, 190 and 220-inch wheel base.

*Models 19X, 31X and 27XS can be supplied in 148, 172, 190, 220 and 235-inch wheel base.

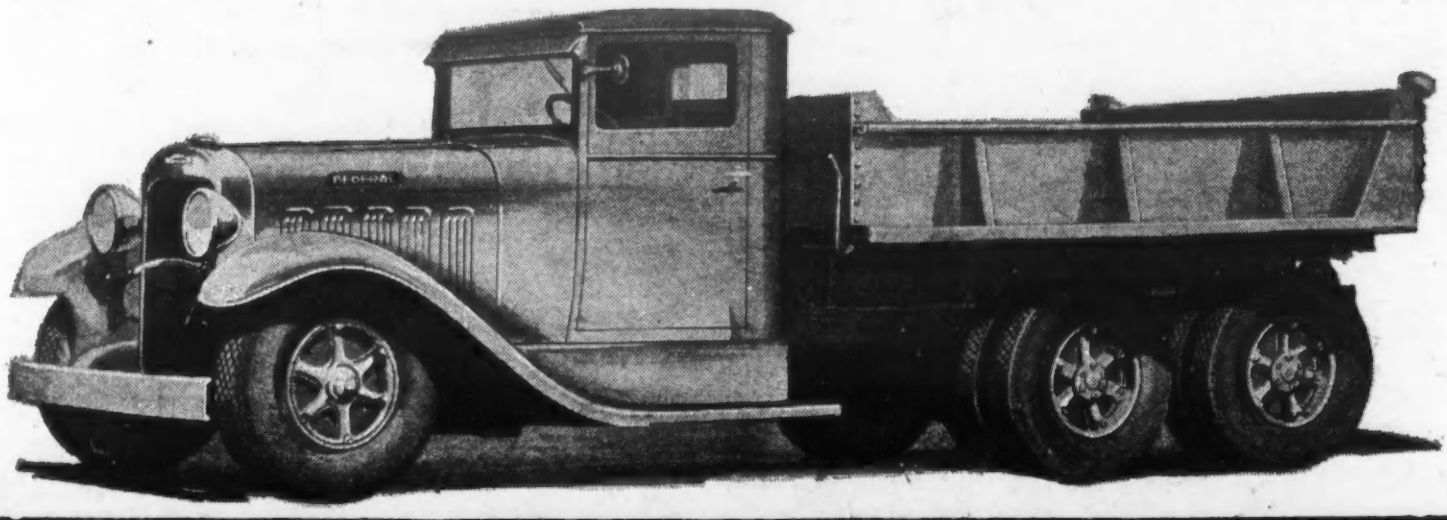
As optional equipment Models 18X, 19X, 31X and 27XS can be supplied with Timken dual redcution rear axle.

Models 38-8, 38-6, 48-8 and 58-8 can be supplied in 160, 170, 180, 196, 226 and 241-inch wheel base and worm axle.

WHITE

*Six-wheelers.

THE TRUCKS OF THE HOUR!



FEDERAL 6 WHEELERS

$1050

**AND UP,
CHASSIS
F. O. B. DETROIT**

Here are facts—brass tack facts—proving that Federal Six-Wheelers set a new standard for truck value and hauling economy. No truck owner can afford to ignore proved facts, particularly when they mean money in his pocket. Are you interested in greater hauling efficiency—in transportation savings that run as high as 50%? Then go over the following points one by one.

Initial Investment Less Than Half the Cost of a 4-Wheel Truck of Equal Capacity.

Several Hundred Dollars a Year Saving in Depreciation.

Lower Insurance Cost Because of Smaller Investment.

Great Saving in State and Gasoline Taxes.

Saving in Tire Replacement Cost, Approximately 28%.

3 to 4 More Miles Per Gallon of Gasoline—a Saving of Hundreds of Dollars a Year.

Total Operating Costs 6 to 8 Cents Lower Per Mile.

Saves Time in Traffic Because of Easy Handling.

Saves Perishable Cargoes or Breakable Merchandise from Damage.

Operates Profitably with Light or Heavy Loads.

Comes Home Cheap—Operates at Low Cost When Empty.

Single Drive with Power Axle at Rear or Dual Drive with Tandem Driving Axles for Greater Traction.

Large Hydraulic Brakes on All Six Wheels.

Double Rear Springs—An Exclusive Federal Feature.

Patented Spring Suspension and Trunnion Mounting.

Less Unsprung Weight Than Any Other Truck Built.

Remarkable Rear End Flexibility and Easy Riding.

Long Tire Life—No Scuffing of Tires When Turning.

Utmost Efficiency in Use of Power.

Greater Load Capacity Per Pound of Chassis Weight.

ALL-TRUCK Construction—Long Chassis Life.

Built and Guaranteed by Federal—Not An Attachment.

***All these claims made for Federal Six-Wheelers are backed up by actual facts and figures submitted by owners who are operating these trucks in practically every kind of service.**

DEALERS LISTEN! "OPPORTUNITY IS KNOCKING AT YOUR DOOR"

Federal Six-Wheelers offer what every truck buyer of today is looking for—great savings in hauling costs. Federal dealers are making money selling these trucks and so can you. Federal's regular four-wheel models from 1½ to 7½ tons, priced from $670.00 up, are also outstanding values. Write for details of the Federal franchise and learn more about this exceptional opportunity.

FEDERAL MOTOR TRUCK CO., DETROIT, MICH